If you plan to submit a bid directly to the Department of Transportation

PREQUALIFICATION

Any contractor who desires to become pre-qualified to bid on work advertised by IDOT must submit the properly completed pre-qualification forms to the Bureau of Construction no later that 4:30 p.m. prevailing time twenty-one days prior to the letting of interest. This pre-qualification requirement applies to first time contractors, contractors renewing expired ratings, contractors maintaining continuous pre-qualification or contractors requesting revised ratings. To be eligible to bid, existing pre-qualification ratings must be effective through the date of letting.

REQUESTS FOR AUTHORIZATION TO BID

Contractors downloading and/or ordering CD-ROM's and are wanting to bid on items included in a particular letting must submit the properly completed "Request for Authorization to Bid/or Not For Bid Status" (BDE 124INT)and the ORIGINAL "Affidavit of Availability" (BC 57) to the proper office no later than 4:30 p.m. prevailing time, three (3) days prior to the letting date.

WHO CAN BID ?

Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction.

WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?: When a prospective prime bidder submits a "Request for Authorization to Bid/or Not For Bid Status"(BDE 124INT) he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued a **Proposal Denial and/or Authorization Form**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Proposal Denial and/or Authorization Form** will indicate the reason for denial.

ABOUT AUTHORIZATION TO BID: Firms that have not received an authorization form within a reasonable time of complete and correct original document submittal should contact the department as to status. This is critical in the week before the letting. These documents must be received three days before the letting date. Firms unsure as to authorization status should call the Prequalification Section of the Bureau of Construction at the number listed at the end of these instructions.

ADDENDA: It is the contractor's responsibility to determine which, if any, addenda pertains to any project they may be bidding. Failure to incorporate all relevant addenda may cause the bid to be declared unacceptable.

Each addendum will be placed with the contract number. Addenda will also be placed on the Addendum/Revision Checksheet and each subscription service subscriber will be notified by e-mail of each addendum issued.

The Internet is the Department's primary way of doing business. The subscription server e-mails are an added courtesy the Department provides. It is suggested that bidder check IDOT's website http://www.dot.il.gov/desenv/delett.html before submitting final bid information.

IDOT is not responsible for any e-mail related failures.

Addenda Questions may be directed to the Contracts Office at (217)-782-7806 or D&Econtracts@dot.il.gov

Technical Questions about downloading these files may be directed to Roseanne Nance (217)-785-5875 or nancer@dot.il.gov

WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?: Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond
2. Other special documentation and/or information that may be required by the contract special provisions

All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed by IDOT personnel.

ABOUT SUBMITTING BIDS: It is recommended that bidders deliver bids in person to insure they arrive at the proper location prior to the time specified for the receipt of bids. Any bid received at the place of letting after the time specified will not be accepted.

WHO SHOULD BE CALLED IF ASSISTANCE IS NEEDED?

Questions Regarding	**Call**
Prequalification and/or Authorization to Bid	217/782-3413
Preparation and submittal of bids	217/782-7806
Mailing of plans and proposals	217/782-7806
Electronic plans and proposals	217/785-5875

ADDENDUMS TO THE PROPOSAL FORMS

Planholders should verify that they have received and incorporated the revisions prior to submitting their bid. Failure by the bidder to include an addendum could result in a bid being rejected as irregular.

RETURN WITH BID

43

Proposal Submitted By
Name
Address
City

Letting November 5, 2004

BIDDERS NEED NOT RETURN THE ENTIRE PROPOSAL
(See instructions inside front cover)

NOTICE TO PROSPECTIVE BIDDERS
This proposal can be used for bidding purposes by only those companies that request and receive written AUTHORIZATION TO BID from IDOT's Central Bureau of Construction.
(SEE INSTRUCTIONS ON THE INSIDE OF COVER)

Notice To Bidders, Specifications, Proposal, Contract and Contract Bond

Illinois Department of Transportation

Springfield, Illinois 62764

Contract No. 83729
LAKE County
Section 98-00254-00-CH (Vernon Hills)
Route FAU 3502 (U.S. Route 45)
Project CMM-8003(423)
District 1 Construction Funds

PLEASE MARK THE APPROPRIATE BOX BELOW:

☐ A Bid Bond is included.

☐ A Cashier's Check or a Certified Check is included

Prepared by

Checked by F

(Printed by authority of the State of Illinois)

INSTRUCTIONS

ABOUT IDOT PROPOSALS: All proposals issued by IDOT are potential bidding proposals. Each proposal contains all Certifications and Affidavits, a Proposal Signature Sheet and a Proposal Bid Bond required for Prime Contractors to submit a bid after written **Authorization to Bid** has been issued by IDOT's Central Bureau of Construction.

HOW MANY PROPOSALS SHOULD PROSPECTIVE BIDDERS REQUEST?: Prospective bidders should, prior to submitting their initial request for plans and proposals, determine their needs and request the total number of plans and proposals needed for each item requested. There will be a nonrefundable charge of $15 for each set of plans and specifications issued.

WHO CAN BID?: Bids will be accepted from only those companies that request and receive written **Authorization to Bid** from IDOT's Central Bureau of Construction. To request authorization, a potential bidder must complete and submit Part B of the Request for Proposal Forms and Plans & Request for Authorization to Bid form (BDE 124) and submit an original Affidavit of Availability (BC 57).

WHAT CONSTITUTES WRITTEN AUTHORIZATION TO BID?: When a prospective prime bidder submits a "Request for Proposal Forms and Plans" he/she must indicate at that time which items are being requested For Bidding purposes. Only those items requested For Bidding will be analyzed. After the request has been analyzed, the bidder will be issued a **Proposal Denial and/or Authorization Form**, approved by the Central Bureau of Construction, that indicates which items have been approved For Bidding. If **Authorization to Bid** cannot be approved, the **Proposal Denial and/or Authorization Form** will indicate the reason for denial. If a contractor has requested to bid but has not received a **Proposal Denial and/or Authorization Form**, they should contact the Central Bureau of Construction in advance of the letting date.

WHAT MUST BE INCLUDED WHEN BIDS ARE SUBMITTED?: Bidders need not return the entire proposal when bids are submitted. That portion of the proposal that must be returned includes the following:

1. All documents from the Proposal Cover Sheet through the Proposal Bid Bond

2. Other special documentation and/or information that may be required by the contract special provisions

All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed by IDOT personnel.

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Prequalification and/or Authorization to Bid	217/782-3413
Preparation and submittal of bids	217/782-7806
Mailing of plans and proposals	217/782-7806

RETURN WITH BID

Illinois Department of Transportation

PROPOSAL

TO THE DEPARTMENT OF TRANSPORTATION

1. Proposal of _____

   _____

   for the improvement identified and advertised for bids in the Invitation for Bids as:

   Contract No. 83729
   LAKE County
   Section 98-00254-00-CH (Vernon Hills)
   Project CMM-8003(423)
   Route FAU 3502 (U.S. Route 45)
   District 1 Construction Funds

   Project consists of the re-alignment and construction of Prairie Road, widening and resurfacing of U.S. Route 45 and the new construction of Fairway Drive with a new traffic signal at the intersection of U.S. Route 45 in Vernon Hills;

2. The undersigned bidder will furnish all labor, material and equipment to complete the above described project in a good and workmanlike manner as provided in the contract documents provided by the Department of Transportation. This proposal will become part of the contract and the terms and conditions contained in the contract documents shall govern performance and payments.

3. **ASSURANCE OF EXAMINATION AND INSPECTION/WAIVER.** The undersigned further declares that he/she has carefully examined the proposal, plans, specifications, form of contract and contract bond, and special provisions, and that he/she has inspected in detail the site of the proposed work, and that he/she has familiarized themselves with all of the local conditions affecting the contract and the detailed requirements of construction, and understands that in making this proposal he/she waives all right to plead any misunderstanding regarding the same.

4. **EXECUTION OF CONTRACT AND CONTRACT BOND.** The undersigned further agrees to execute a contract for this work and present the same to the department within fifteen (15) days after the contract has been mailed to him/her. The undersigned further agrees that he/she and his/her surety will execute and present within fifteen (15) days after the contract has been mailed to him/her contract bond satisfactory to and in the form prescribed by the Department of Transportation, in the penal sum of the full amount of the contract, guaranteeing the faithful performance of the work in accordance with the terms of the contract.

5. **PROPOSAL GUARANTY.** Accompanying this proposal is either a bid bond on the department form, executed by a corporate surety company satisfactory to the department, or a proposal guaranty check consisting of a bank cashier's check or a properly certified check for not less than 5 per cent of the amount bid or for the amount specified in the following schedule:

Amount of Bid			Proposal Guaranty	Amount of Bid			Proposal Guaranty
Up to		$5,000	$150	$2,000,000	to	$3,000,000	$100,000
$5,000	to	$10,000	$300	$3,000,000	to	$5,000,000	$150,000
$10,000	to	$50,000	$1,000	$5,000,000	to	$7,500,000	$250,000
$50,000	to	$100,000	$3,000	$7,500,000	to	$10,000,000	$400,000
$100,000	to	$150,000	$5,000	$10,000,000	to	$15,000,000	$500,000
$150,000	to	$250,000	$7,500	$15,000,000	to	$20,000,000	$600,000
$250,000	to	$500,000	$12,500	$20,000,000	to	$25,000,000	$700,000
$500,000	to	$1,000,000	$25,000	$25,000,000	to	$30,000,000	$800,000
$1,000,000	to	$1,500,000	$50,000	$30,000,000	to	$35,000,000	$900,000
$1,500,000	to	$2,000,000	$75,000	over		$35,000,000	$1,000,000

Bank cashier's checks or properly certified checks accompanying proposals shall be made payable to the Treasurer, State of Illinois, when the state is awarding authority; the county treasurer, when a county is the awarding authority; or the city, village, or town treasurer, when a city, village, or town is the awarding authority.

If a combination bid is submitted, the proposal guaranties which accompany the individual proposals making up the combination will be considered as also covering the combination bid.

The amount of the proposal guaranty check is _____ $( ). If this proposal is accepted and the undersigned shall fail to execute a contract bond as required herein, it is hereby agreed that the amount of the proposal guaranty shall become the property of the State of Illinois, and shall be considered as payment of damages due to delay and other causes suffered by the State because of the failure to execute said contract and contract bond; otherwise, the bid bond shall become void or the proposal guaranty check shall be returned to the undersigned.

Attach Cashier's Check or Certified Check Here

In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties which would be required for each individual proposal. If the guaranty check is placed in another proposal, state below where it may be found.

The proposal guaranty check will be found in the proposal for:

Item _____

Section No. _____

County _____

Mark the proposal cover sheet as to the type of proposal guaranty submitted.

BD 354 (Rev. 11/2001)

6. **COMBINATION BIDS.** The undersigned further agrees that if awarded the contract for the sections contained in the following combination, he/she will perform the work in accordance with the requirements of each individual proposal comprising the combination bid specified in the schedule below, and that the combination bid shall be prorated against each section in proportion to the bid submitted for the same. If an error is found to exist in the gross sum bid for one or more of the individual sections included in a combination, the combination bid shall be corrected as provided in the specifications.

When a combination bid is submitted, the schedule below must be completed in each proposal comprising the combination.

If alternate bids are submitted for one or more of the sections comprising the combination, a combination bid must be submitted for each alternate.

Schedule of Combination Bids

Combination No.	Sections Included in Combination	Combination Bid Dollars	Cents

7. **SCHEDULE OF PRICES.** The undersigned bidder submits herewith, in accordance with the rules and instructions, a schedule of prices for the items of work for which bids are sought. The unit prices bid are in U.S. dollars and cents, and all extensions and summations have been made. The bidder understands that the quantities appearing in the bid schedule are approximate and are provided for the purpose of obtaining a gross sum for the comparison of bids. If there is an error in the extension of the unit prices, the unit prices shall govern. Payment to the contractor awarded the contract will be made only for actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as provided elsewhere in the contract.

8. **CERTIFICATE OF AUTHORITY.** The undersigned bidder, if a business organized under the laws of another State, assures the Department that it will furnish a copy of its certificate of authority to do business in the State of Illinois with the return of the executed contract and bond. Failure to furnish the certificate within the time provided for execution of an awarded contract may be cause for cancellation of the award and forfeiture of the proposal guaranty to the State.

COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE
LAKE	097	01	98-00254-00-CH (VERNON HILLS)	CMM-8003/423/000	FAU 3502

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS	TOTAL PRICE DOLLARS	TOTAL PRICE CTS
A2001816	T-ACER SACR GM 2	EACH	50.000 X		=		
A2004124	T-FRAX PENN PAT 3	EACH	50.000 X		=		
A2006516	T-QUERCUS BICOL 2	EACH	50.000 X		=		
A2007120	T-QUERCUS RUBRA 2-1/2	EACH	50.000 X		=		
XX000613	MODULAR BLOC RET WALL	SQ FT	72.000 X		=		
XX000856	MAILBOX REM & RELOC	EACH	5.000 X		=		
XX002856	RE-OPTIMIZE TR SIG SY	L SUM	1.000 X		=		
XX003817	GRATING-C FL END S 12	EACH	1.000 X		=		
XX003818	HAY OR STRAW BALES	EACH	95.000 X		=		
XX004363	P CUL REM 12	FOOT	186.000 X		=		
XX005310	DEWATERING (SPECIAL)	HOUR	12.000 X		=		
XX006034	ABANDON WATER MAIN 16	FOOT	195.000 X		=		
XX006035	CASING PIPE 16	FOOT	175.000 X		=		
XX006036	CASING PIPE 24	FOOT	125.000 X		=		
XX006037	CDS UNIT	EACH	2.000 X		=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
XX006038	CONN EX W MN P 16	EACH	2.000	X		=		
XX006039	REST D CB 4D T11V F&G	EACH	1.000	X		=		
XX006040	STONE PILRS TO BE REL	EACH	4.000	X		=		
XX006041	SUB PIPE FOUNDATION12	EACH	1.000	X		=		
XX006042	T-FRAX AMER RP 3	EACH	50.000	X		=		
XX006043	WATER WELL TO BE C&A	EACH	1.000	X		=		
XX006044	WOOD FENCE REM & REPL	FOOT	50.000	X		=		
XX006045	F & P TOP SOIL 6	SQ YD	28,573.000	X		=		
XX006046	SED CONT DR ST INL F	EACH	30.000	X		=		
XX011700	WATER MAIN FITTINGS	POUND	1,845.000	X		=		
X0301335	WATER MAIN REMOV 8	FOOT	219.000	X		=		
X0301865	P CUL REM 24	FOOT	20.000	X		=		
X0301877	CONN EX W MN P 8	EACH	2.000	X		=		
X0322256	TEMP INFO SIGNING	SQ FT	52.000	X		=		
X0322925	ELCBL C TRACER 14 1C	FOOT	2,803.000	X		=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
X0323426	SED CONT DR ST INL CL	EACH	60.000	X			=		
X0323449	REM EX WATER VALVE	EACH	2.000	X			=		
X0323828	WATER MAIN REMOV 16	FOOT	312.000	X			=		
X0323868	DRAINAGE RESTRICTOR	EACH	1.000	X			=		
X0330200	SAN MAN ADJUST	EACH	2.000	X			=		
X0545000	BOX CULVERT REMOV	FOOT	127.000	X			=		
X0712400	TEMP PAVEMENT	SQ YD	3,915.000	X			=		
X0919000	TEMP PAVT REMOVAL	SQ YD	3,915.000	X			=		
X4066414	BC SC SUPER "C" N50	TON	288.000	X			=		
X4066426	BC SC SUPER "D" N70	TON	896.000	X			=		
X4066538	P BCSC SUPER "E" N90	TON	1,402.000	X			=		
X4066614	BCBC SUP IL-19.0 N50	TON	108.000	X			=		
X4066616	BCBC SUP IL-19.0 N70	TON	4,096.000	X			=		
X4066658	P BCBC SUP IL19.0 N90	TON	8,493.000	X			=		
X6700405	ENGR FLD OFF A MOD	CAL MO	9.000	X			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
X8050015	SERV INSTALL POLE MT	EACH	1.000	X			=		
X8710020	FOCC62.5/125 MM12SM12	FOOT	2,829.000	X			=		
X8730027	ELCBL C GROUND 6 1C	FOOT	739.000	X			=		
X8730250	ELCBL C 20 3C TW SH	FOOT	351.000	X			=		
X8800020	SH LED 1F 3S MAM	EACH	8.000	X			=		
X8800035	SH LED 1F 3S BM	EACH	2.000	X			=		
X8800045	SH LED 1F 5S MAM	EACH	4.000	X			=		
X8805280	SH LED 2F 1-3 1-5 BM	EACH	4.000	X			=		
X8810610	PED SH LED 1F BM	EACH	7.000	X			=		
X8810620	PED SH LED 2F BM	EACH	1.000	X			=		
X8810630	PED SH LED 3F BM	EACH	1.000	X			=		
Z0000990	AGG FOR TEMP ACCESS	TON	261.000	X			=		
Z0001050	AGG SUBGRADE 12	SQ YD	25,372.000	X			=		
Z0013825	CONTR LOW-STRENG MATL	CU YD	5.000	X			=		
Z0076600	TRAINEES	HOUR	1,500.000	X	0	.80	=	1,200	.00

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
20100110	TREE REMOV 6-15	UNIT	1,444.000	X			=		
20100210	TREE REMOV OVER 15	UNIT	1,052.000	X			=		
20101100	TREE TRUNK PROTECTION	EACH	60.000	X			=		
20101200	TREE ROOT PRUNING	EACH	60.000	X			=		
20101400	NITROGEN FERT NUTR	POUND	373.000	X			=		
20101500	PHOSPHORUS FERT NUTR	POUND	373.000	X			=		
20101600	POTASSIUM FERT NUTR	POUND	373.000	X			=		
20200100	EARTH EXCAVATION	CU YD	23,424.000	X			=		
20201200	REM & DISP UNS MATL	CU YD	5,450.000	X			=		
20400800	FURNISHED EXCAV	CU YD	1,994.000	X			=		
20700420	POROUS GRAN EMB SUBGR	CU YD	5,450.000	X			=		
20800150	TRENCH BACKFILL	CU YD	1,728.000	X			=		
21001000	GEOTECH FAB F/GR STAB	SQ YD	18,734.000	X			=		
21301052	EXPLOR TRENCH 52	FOOT	1,000.000	X			=		
25000350	SEEDING CL 7	ACRE	0.160	X			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
25100630	EROSION CONTR BLANKET	SQ YD	754.000	X			=		
25200110	SODDING SALT TOLERANT	SQ YD	27,799.000	X			=		
25200200	SUPPLE WATERING	UNIT	400.000	X			=		
28000400	PERIMETER EROS BAR	FOOT	7,418.000	X			=		
28100707	STONE DUMP RIP CL A4	SQ YD	69.000	X			=		
28200100	FILTER FAB FOR RIPRAP	SQ YD	69.000	X			=		
35101800	AGG BASE CSE B 6	SQ YD	352.000	X			=		
35102000	AGG BASE CSE B 8	SQ YD	1,197.000	X			=		
35102200	AGG BASE CSE B 10	SQ YD	689.000	X			=		
40300100	BIT MATLS PR CT	GALLON	3,404.000	X			=		
40800030	AGG PR CT	TON	65.000	X			=		
42300800	PCC DRIVEWAY PVT 8 SP	SQ YD	1,207.000	X			=		
42400430	PC CONC SIDEWALK 5 SP	SQ FT	9,683.000	X			=		
44000100	PAVEMENT REM	SQ YD	10,426.000	X			=		
44000200	DRIVE PAVEMENT REM	SQ YD	949.000	X			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
44000500	COMB CURB GUTTER REM	FOOT	308.000	X			=		
44000600	SIDEWALK REM	SQ FT	2,613.000	X			=		
44002600	GUT OUTLET REM	FOOT	51.000	X			=		
44201745	CL D PATCH T3 8	SQ YD	51.000	X			=		
48101500	AGGREGATE SHLDS B 6	SQ YD	675.000	X			=		
48101600	AGGREGATE SHLDS B 8	SQ YD	370.000	X			=		
48200400	BIT SHOULDERS 6	SQ YD	200.000	X			=		
48202850	BIT SHLD SUPER 12 1/2	SQ YD	1,790.000	X			=		
54213657	PRC FLAR END SEC 12	EACH	1.000	X			=		
54213666	PRC FLAR END SEC 21	EACH	1.000	X			=		
54213669	PRC FLAR END SEC 24	EACH	1.000	X			=		
54214725	PRCF END S EL EQRS 30	EACH	1.000	X			=		
54247120	GRATING-C FL END S 21	EACH	1.000	X			=		
54247130	GRATING-C FL END S 24	EACH	1.000	X			=		
54248150	GRT-C FL END S EQV 30	EACH	1.000	X			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
550A0050	STORM SEW CL A 1 12	FOOT	175.000			X =		
550A0120	STORM SEW CL A 1 24	FOOT	106.000			X =		
550A0340	STORM SEW CL A 2 12	FOOT	880.000			X =		
550A0360	STORM SEW CL A 2 15	FOOT	80.000			X =		
550A0380	STORM SEW CL A 2 18	FOOT	100.000			X =		
550A0400	STORM SEW CL A 2 21	FOOT	260.000			X =		
550A0410	STORM SEW CL A 2 24	FOOT	504.000			X =		
55035600	SS 2 RCEP S38 R24	FOOT	78.000			X =		
55100400	STORM SEWER REM 10	FOOT	36.000			X =		
55100500	STORM SEWER REM 12	FOOT	133.000			X =		
55101100	STORM SEWER REM 21	FOOT	59.000			X =		
56103000	D I WATER MAIN 6	FOOT	52.000			X =		
56103100	D I WATER MAIN 8	FOOT	201.000			X =		
56103400	D I WATER MAIN 16	FOOT	509.000			X =		
56105000	WATER VALVES 8	EACH	1.000			X =		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
56400200	FIRE HYDNTS MOVED SPL	EACH	3.000			=		
60107700	PIPE UNDERDRAINS 6	FOOT	41.000			=		
60108100	PIPE UNDERDRAIN 4 SP	FOOT	1,595.000			=		
60200105	CB TA 4 DIA T1F OL	EACH	1.000			=		
60200205	CB TA 4 DIA T1F CL	EACH	2.000			=		
60200805	CB TA 4 DIA T8G	EACH	1.000			=		
60201340	CB TA 4 DIA T24F&G	EACH	2.000			=		
60207605	CB TC T8G	EACH	2.000			=		
60208240	CB TC T24F&G	EACH	4.000			=		
60213900	RD CB 4 DIA T1F CL	EACH	2.000			=		
60215700	RD CB 5 DIA T1F OL	EACH	1.000			=		
60218400	MAN TA 4 DIA T1F CL	EACH	7.000			=		
60224446	MAN TA 7 DIA T1F CL	EACH	1.000			=		
60224600	RD MAN 4 DIA T1F CL	EACH	1.000			=		
60225300	RD MAN 5 DIA T1F OL	EACH	2.000			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
60225400	RD MAN 5 DIA T1F CL	EACH	1.000	X			=		
60236825	INLETS TA T11V F&G	EACH	1.000	X			=		
60237470	INLETS TA T24F&G	EACH	13.000	X			=		
60248700	VV TA 4 DIA T1F CL	EACH	1.000	X			=		
60255500	MAN ADJUST	EACH	4.000	X			=		
60266500	VV REMOVED	EACH	2.000	X			=		
60500040	REMOV MANHOLES	EACH	4.000	X			=		
60500050	REMOV CATCH BAS	EACH	4.000	X			=		
60500060	REMOV INLETS	EACH	1.000	X			=		
60600605	CONC CURB TB	FOOT	104.000	X			=		
60603800	COMB CC&G TB6.12	FOOT	160.000	X			=		
60605000	COMB CC&G TB6.24	FOOT	4,404.000	X			=		
60608521	COMB CC&G TM2.24	FOOT	186.000	X			=		
60608600	COMB CC&G TM6.06	FOOT	146.000	X			=		
60610400	COMB CC&G TM6.24	FOOT	117.000	X			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
60610800	COMB CC&G TM6.24 SPL	FOOT	126.000	X			=		
60618324	CONC MEDIAN SURF 6 SP	SQ FT	2,097.000	X			=		
60618721	CONC MED TM-2	SQ FT	1,274.000	X			=		
60620000	CONC MED TSB6.24	SQ FT	1,470.000	X			=		
60623200	CONC MED TSM6.24	SQ FT	387.000	X			=		
61140200	STORM SEWER SPEC 12	FOOT	363.000	X			=		
61140600	STORM SEWER SPEC 18	FOOT	120.000	X			=		
63000005	SPBGR TY B	FOOT	613.000	X			=		
63100167	TR BAR TRM T1 SPL TAN	EACH	3.000	X			=		
63200715	SPBGR REM TY B	FOOT	388.000	X			=		
70101700	TRAF CONT & PROT	L SUM	1.000	X			=		
70300100	SHORT-TERM PAVT MKING	FOOT	96.000	X			=		
70300520	PAVT MARK TAPE T3 4	FOOT	1,444.000	X			=		
70300530	PAVT MARK TAPE T3 5	FOOT	1,038.000	X			=		
70300610	TEMP PT PAVT MK L&S	SQ FT	73.000	X			=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
70300625	TEMP PT PVT M LINE 4	FOOT	14,362.000	X		=		
70300630	TEMP PT PVT M LINE 5	FOOT	14,267.000	X		=		
70300635	TEMP PT PVT M LINE 6	FOOT	200.000	X		=		
70300645	TEMP PT PVT M LINE 12	FOOT	135.000	X		=		
70300660	TEMP PT PVT M LINE 24	FOOT	103.000	X		=		
72000100	SIGN PANEL T1	SQ FT	90.000	X		=		
72000200	SIGN PANEL T2	SQ FT	29.000	X		=		
72400100	REMOV SIN PAN ASSY TA	EACH	7.000	X		=		
72400500	RELOC SIN PAN ASSY TA	EACH	8.000	X		=		
72900100	METAL POST TY A	FOOT	210.000	X		=		
78000100	THPL PVT MK LTR & SYM	SQ FT	511.000	X		=		
78000200	THPL PVT MK LINE 4	FOOT	18,919.000	X		=		
78000300	THPL PVT MK LINE 5	FOOT	1,386.000	X		=		
78000400	THPL PVT MK LINE 6	FOOT	3,308.000	X		=		
78000500	THPL PVT MK LINE 8	FOOT	653.000	X		=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
78000600	THPL PVT MK LINE 12	FOOT	1,870.000			X =		
78000650	THPL PVT MK LINE 24	FOOT	178.000			X =		
78100100	RAISED REFL PAVT MKR	EACH	216.000			X =		
78300105	PAVT MARKING REMOVAL	FOOT	13,028.000			X =		
81000600	CON T 2 GALVS	FOOT	2,996.000			X =		
81000700	CON T 2 1/2 GALVS	FOOT	350.000			X =		
81001000	CON T 4 GALVS	FOOT	101.000			X =		
81001100	CON T 5 GALVS	FOOT	10.000			X =		
81018500	CON P 2 GALVS	FOOT	230.000			X =		
81018600	CON P 2 1/2 GALVS	FOOT	144.000			X =		
81018700	CON P 3 GALVS	FOOT	23.000			X =		
81018900	CON P 4 GALVS	FOOT	407.000			X =		
81400100	HANDHOLE	EACH	9.000			X =		
81400200	HD HANDHOLE	EACH	6.000			X =		
81400300	DBL HANDHOLE	EACH	2.000			X =		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
81500200	TR & BKFIL F ELECT WK	FOOT	3,422.000	X		=		
85000200	MAIN EX TR SIG INSTAL	EACH	1.000	X		=		
85700200	FAC T4 CAB	EACH	1.000	X		=		
86400100	TRANSCEIVER - FIB OPT	EACH	1.000	X		=		
87301215	ELCBL C SIGNAL 14 2C	FOOT	1,791.000	X		=		
87301225	ELCBL C SIGNAL 14 3C	FOOT	2,744.000	X		=		
87301245	ELCBL C SIGNAL 14 5C	FOOT	3,634.000	X		=		
87301255	ELCBL C SIGNAL 14 7C	FOOT	1,784.000	X		=		
87301305	ELCBL C LEAD 14 1PR	FOOT	2,418.000	X		=		
87301805	ELCBL C SERV 6 2C	FOOT	266.000	X		=		
87502440	TS POST GALVS 10	EACH	1.000	X		=		
87502480	TS POST GALVS 14	EACH	2.000	X		=		
87502500	TS POST GALVS 16	EACH	2.000	X		=		
87700130	S MAA & P 18	EACH	2.000	X		=		
87700250	S MAA & P 42	EACH	1.000	X		=		

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY		UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
87700270	S MAA & P 46	EACH	1.000	X			=		
87700280	S MAA & P 48	EACH	1.000	X			=		
87700320	S MAA & P 55	EACH	1.000	X			=		
87800100	CONC FDN TY A	FOOT	20.000	X			=		
87800200	CONC FDN TY D	FOOT	4.000	X			=		
87800415	CONC FDN TY E 36D	FOOT	90.000	X			=		
87900200	DRILL EX HANDHOLE	EACH	1.000	X			=		
88200210	TS BACKPLATE LOU ALUM	EACH	12.000	X			=		
88500100	INDUCTIVE LOOP DETECT	EACH	10.000	X			=		
88600100	DET LOOP T1	FOOT	1,039.000	X			=		
88700200	LIGHT DETECTOR	EACH	2.000	X			=		
88700300	LIGHT DETECTOR AMP	EACH	1.000	X			=		
88800100	PED PUSH-BUTTON	EACH	9.000	X			=		
89000100	TEMP TR SIG INSTALL	EACH	1.000	X			=		

TOTAL $

NOTE:
*** PLEASE TURN PAGE FOR IMPORTANT NOTES ***

NOTE:

1. EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.

2. THE UNIT PRICE SHALL GOVERN IF NO TOTAL PRICE IS SHOWN OR IF THERE IS A DISCREPANCY BETWEEN THE PRODUCT OF THE UNIT PRICE MULTIPLIED BY THE QUANTITY.

3. IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.

4. A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.

RETURN WITH BID

STATE REQUIRED ETHICAL STANDARDS GOVERNING CONTRACT PROCUREMENT: ASSURANCES, CERTIFICATIONS AND DISCLOSURES

I. GENERAL

A. Article 50 of the Illinois Procurement Code establishes the duty of all State chief procurement officers, State purchasing officers, and their designees to maximize the value of the expenditure of public moneys in procuring goods, services, and contracts for the State of Illinois and to act in a manner that maintains the integrity and public trust of State government. In discharging this duty, they are charged by law to use all available information, reasonable efforts, and reasonable actions to protect, safeguard, and maintain the procurement process of the State of Illinois.

B. In order to comply with the provisions of Article 50 and to carry out the duty established therein, all bidders are to adhere to ethical standards established for the procurement process, and to make such assurances, disclosures and certifications required by law. By execution of the Proposal Signature Sheet, the bidder indicates that each of the mandated assurances has been read and understood, that each certification is made and understood, and that each disclosure requirement has been understood and completed.

C. In addition to all other remedies provided by law, failure to comply with any assurance, failure to make any disclosure or the making of a false certification shall be grounds for termination of the contract and the suspension or debarment of the bidder.

II. ASSURANCES

A. The assurances hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous assurance, and the surety providing the performance bond shall be responsible for the completion of the contract.

B. Felons

1. The Illinois Procurement Code provides:

Section 50-10. Felons. Unless otherwise provided, no person or business convicted of a felony shall do business with the State of Illinois or any state agency from the date of conviction until 5 years after the date of completion of the sentence for that felony, unless no person held responsible by a prosecutorial office for the facts upon which the conviction was based continues to have any involvement with the business.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-10.

C. Conflicts of Interest

1. The Illinois Procurement Code provides in pertinent part:

Section 50-13. Conflicts of Interest.

(a) Prohibition. It is unlawful for any person holding an elective office in this State, holding a seat in the General Assembly, or appointed to or employed in any of the offices or agencies of state government and who receives compensation for such employment in excess of 60% of the salary of the Governor of the State of Illinois, or who is an officer or employee of the Capital Development Board or the Illinois Toll Highway Authority, or who is the spouse or minor child of any such person to have or acquire any contract, or any direct pecuniary interest in any contract therein, whether for stationery, printing, paper, or any services, materials, or supplies, that will be wholly or partially satisfied by the payment of funds appropriated by the General Assembly of the State of Illinois or in any contract of the Capital Development Board or the Illinois Toll Highway authority.

(b) Interests. It is unlawful for any firm, partnership, association or corporation, in which any person listed in subsection (a) is entitled to receive (i) more than 7 1/2% of the total distributable income or (ii) an amount in excess of the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(c) Combined interests. It is unlawful for any firm, partnership, association, or corporation, in which any person listed in subsection (a) together with his or her spouse or minor children is entitled to receive (i) more than 15%, in the aggregate, of the total distributable income or (ii) an amount in excess of 2 times the salary of the Governor, to have or acquire any such contract or direct pecuniary interest therein.

(d) Securities. Nothing in this Section invalidates the provisions of any bond or other security previously offered or to be offered for sale or sold by or for the State of Illinois.

(e) Prior interests. This Section does not affect the validity of any contract made between the State and an officer or employee of the State or member of the General Assembly, his or her spouse, minor child or any combination of those persons if that contract was in existence before his or her election or employment as an officer, member, or employee. The contract is voidable, however, if it cannot be completed within 365 days after the officer, member, or employee takes office or is employed.

The current salary of the Governor is $150,700.00. Sixty percent of the salary is $90,420.00.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-13, or that an effective exemption has been issued by the Board of Ethics to any individual subject to the Section 50-13 prohibitions pursuant to the provisions of Section 50-20 of the Code and Executive Order Number 3 (1998). Information concerning the exemption process is available from the Department upon request.

D. Negotiations

1. The Illinois Procurement Code provides in pertinent part:

Section 50-15. Negotiations.

(a) It is unlawful for any person employed in or on a continual contractual relationship with any of the offices or agencies of State government to participate in contract negotiations on behalf of that office or agency with any firm, partnership, association, or corporation with whom that person has a contract for future employment or is negotiating concerning possible future employment.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-15, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

E. Inducements

1. The Illinois Procurement Code provides:

Section 50-25. Inducement. Any person who offers or pays any money or other valuable thing to any person to induce him or her not to bid for a State contract or as recompense for not having bid on a State contract is guilty of a Class 4 felony. Any person who accepts any money or other valuable thing for not bidding for a State contract or who withholds a bid in consideration of the promise for the payment of money or other valuable thing is guilty of a Class 4 felony.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-25, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

F. Revolving Door Prohibition

1. The Illinois Procurement Code provides:

Section 50-30. Revolving door prohibition. Chief procurement officers, associate procurement officers, State purchasing officers, their designees whose principal duties are directly related to State procurement, and executive officers confirmed by the Senate are expressly prohibited for a period of 2 years after terminating an affected position from engaging in any procurement activity relating to the State agency most recently employing them in an affected position for a period of at least 6 months. The prohibition includes, but is not limited to: lobbying the procurement process; specifying; bidding; proposing bid, proposal, or contract documents; on their own behalf or on behalf of any firm, partnership, association, or corporation. This Section applies only to persons who terminate an affected position on or after January 15, 1999.

2. The bidder assures the Department that the award and execution of the contract would not cause a violation of Section 50-30, and that the bidder has no knowledge of any facts relevant to the kinds of acts prohibited therein.

G. Reporting Anticompetitive Practices

1. The Illinois Procurement Code provides:

Section 50-40. Reporting anticompetitive practices. When, for any reason, any vendor, bidder, contractor, chief procurement officer, State purchasing officer, designee, elected official, or State employee suspects collusion or other anticompetitive practice among any bidders, offerors, contractors, proposers, or employees of the State, a notice of the relevant facts shall be transmitted to the Attorney General and the chief procurement officer.

2. The bidder assures the Department that it has not failed to report any relevant facts concerning the practices addressed in Section 50-40 which may involve the contract for which the bid is submitted.

H. Confidentiality

1. The Illinois Procurement Code provides:

Section 50-45. Confidentiality. Any chief procurement officer, State purchasing officer, designee, or executive officer who willfully uses or allows the use of specifications, competitive bid documents, proprietary competitive information, proposals, contracts, or selection information to compromise the fairness or integrity of the procurement, bidding, or contract process shall be subject to immediate dismissal, regardless of the Personnel code, any contract, or any collective bargaining agreement, and may in addition be subject to criminal prosecution.

2. The bidder assures the Department that it has no knowledge of any fact relevant to the practices addressed in Section 50-45 which may involve the contract for which the bid is submitted.

RETURN WITH BID

I. Insider Information

1. The Illinois Procurement Act provides:

Section 50-50. Insider information. It is unlawful for any current or former elected or appointed State official or State employee to knowingly use confidential information available only by virtue of that office or employment for actual or anticipated gain for themselves or another person.

2. The bidder assures the Department that it has no knowledge of any facts relevant to the practices addressed in Section 50-50 which may involve the contract for which the bid is submitted.

III. CERTIFICATIONS

A. The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous certification, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Bribery

1. The Illinois Procurement Code provides:

Section 50-5. Bribery.

(a) Prohibition. No person or business shall be awarded a contract or subcontract under this Code who:

(1) has been convicted under the laws of Illinois or any other state of bribery or attempting to bribe an officer or employee of the State of Illinois or any other state in that officer's or employee's official capacity; or

(2) has made an admission of guilt of that conduct that is a matter of record but has not been prosecuted for that conduct.

(b) Businesses. No business shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of the business if the employee or agent is no longer employed by the business and:

(1) the business has been finally adjudicated not guilty; or

(2) the business demonstrates to the governmental entity with which it seeks to contract, and that entity finds that the commission of the offense was not authorized, requested, commanded, or performed by a director, officer, or high managerial agent on behalf of the business as provided in paragraph (2) of subsection (a) of Section 5-4 of the Criminal Code of 1961.

(c) Conduct on behalf of business. For purposes of this Section, when an official, agent, or employee of a business committed the bribery or attempted bribery on behalf of the business and in accordance with the direction or authorization of a responsible official of the business, the business shall be chargeable with the conduct.

(d) Certification. Every bid submitted to and contract executed by the State shall contain a certification by the contractor that the contractor is not barred from being awarded a contract or subcontract under this Section. A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

2. The bidder certifies that it is not barred from being awarded a contract under Section 50.5.

C. Educational Loan

1. Section 3 of the Educational Loan Default Act provides:

§ 3. No State agency shall contract with an individual for goods or services if that individual is in default, as defined in Section 2 of this Act, on an educational loan. Any contract used by any State agency shall include a statement certifying that the individual is not in default on an educational loan as provided in this Section.

2. The bidder, if an individual as opposed to a corporation, partnership or other form of business organization, certifies that the bidder is not in default on an educational loan as provided in Section 3 of the Act.

D. Bid-Rigging/Bid Rotating

1. Section 33E-11 of the Criminal Code of 1961 provides:

§ 33E-11. (a) Every bid submitted to and public contract executed pursuant to such bid by the State or a unit of local government shall contain a certification by the prime contractor that the prime contractor is not barred from contracting with any unit of State or local government as a result of a violation of either Section 33E-3 or 33E-4 of this Article. The State and units of local government shall provide the appropriate forms for such certification.

(b) A contractor who makes a false statement, material to the certification, commits a Class 3 felony.

A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

2. The bidder certifies that it is not barred from contracting with the Department by reason of a violation of either Section 33E-3 or Section 33E-4.

E. International Anti-Boycott

1. Section 5 of the International Anti-Boycott Certification Act provides:

§ 5. State contracts. Every contract entered into by the State of Illinois for the manufacture, furnishing, or purchasing of supplies, material, or equipment or for the furnishing of work, labor, or services, in an amount exceeding the threshold for small purchases according to the purchasing laws of this State or $10,000.00, whichever is less, shall contain certification, as a material condition of the contract, by which the contractor agrees that neither the contractor nor any substantially-owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the U.S. Export Administration Act of 1979 or the regulations of the U.S. Department of Commerce promulgated under that Act.

2. The bidder makes the certification set forth in Section 5 of the Act.

F. Drug Free Workplace

1. The Illinois “Drug Free Workplace Act” applies to this contract and it is necessary to comply with the provisions of the “Act” if the contractor is a corporation, partnership, or other entity (including a sole proprietorship) which has 25 or more employees.

2. The bidder certifies that if awarded a contract in excess of $5,000 it will provide a drug free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance, including cannabis, is prohibited in the contractor’s workplace; specifying the actions that will be taken against employees for violations of such prohibition; and notifying the employee that, as a condition of employment on such contract, the employee shall abide by the terms of the statement, and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

(b) Establishing a drug free awareness program to inform employees about the dangers of drug abuse in the workplace; the contractor’s policy of maintaining a drug free workplace; any available drug counseling, rehabilitation, and employee assistance programs; and the penalties that may be imposed upon employees for drug violations.

(c) Providing a copy of the statement required by subparagraph (1) to each employee engaged in the performance of the contract and to post the statement in a prominent place in the workplace.

(d) Notifying the Department within ten (10) days after receiving notice from an employee or otherwise receiving actual notice of the conviction of an employee for a violation of any criminal drug statute occurring in the workplace.

(e) Imposing or requiring, within 30 days after receiving notice from an employee of a conviction or actual notice of such a conviction, an appropriate personnel action, up to and including termination, or the satisfactory participation in a drug abuse assistance or rehabilitation program approved by a federal, state or local health, law enforcement or other appropriate agency.

(f) Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of the actions and efforts stated in this certification.

G. Debt Delinquency

1. The Illinois Procurement Code provides:

Section 50-11 and 50-12. Debt Delinquency.

The contractor or bidder certifies that it, or any affiliate, is not barred from being awarded a contract under 30 ILCS 500. Section 50-11 prohibits a person from entering into a contract with a State agency if it knows or should know that it, or any affiliate, is delinquent in the payment of any debt to the State as defined by the Debt Collection Board. Section 50-12 prohibits a person from entering into a contract with a State agency if it, or any affiliate, has failed to collect and remit Illinois Use Tax on all sales of tangible personal property into the State of Illinois in accordance with the provisions of the Illinois Use Tax Act. The contractor further acknowledges that the contracting State agency may declare the contract void if this certification is false or if the contractor, or any affiliate, is determined to be delinquent in the payment of any debt to the State during the term of the contract.

H. Sarbanes-Oxley Act of 2002

1. The Illinois Procurement Code provides:

Section 50-60(c).

The contractor certifies in accordance with 30 ILCS 500/50-10.5 that no officer, director, partner or other managerial agent of the contracting business has been convicted of a felony under the Sarbanes-Oxley Act of 2002 or a Class 3 or Class 2 felony under the Illinois Securities Law of 1953 for a period of five years prior to the date of the bid or contract. The contractor acknowledges that the contracting agency shall declare the contract void if this certification is false.

I. ADDENDA

The contractor or bidder certifies that all relevant addenda have been incorporated in to this contract. Failure to do so may cause the bid to be declared unacceptable.

J. Section 42 of the Environmental Protection Act

The contractor certifies in accordance with 30 ILCS 500/50-12 that the bidder or contractor is not barred from being awarded a contract under this Section which prohibits the bidding on or entering into contracts with the State of Illinois or a State agency by a person or business found by a court or the Pollution Control Board to have committed a willful or knowing violation of Section 42 of the Environmental Protection Act for a period of five years from the date of the order. The contractor acknowledges that the contracting agency may declare the contract void if this certification is false.

K. Apprenticeship and Training Certification (Does not apply to federal aid projects)

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors submitted for approval either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Department, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and each of its subcontractors. Unless otherwise directed in writing by the Department, applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor. The bidder shall list in the space below, the official name of the program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's forces. Types of work or craft work that will be subcontracted may be indicated as to be subcontracted.

_____
_____
_____

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. In order to fulfill this requirement, it shall not be necessary that an applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

TO BE RETURNED WITH BID

IV. DISCLOSURES

A. The disclosures hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder. The Department may terminate the contract if it is later determined that the bidder rendered a false or erroneous disclosure, and the surety providing the performance bond shall be responsible for completion of the contract.

B. Financial Interests and Conflicts of Interest

1. Section 50-35 of the Illinois Procurement Code provides that all bids of more than $10,000 shall be accompanied by disclosure of the financial interests of the bidder. This disclosed information for the successful bidder, will be maintained as public information subject to release by request pursuant to the Freedom of Information Act.

The financial interests to be disclosed shall include ownership or distributive income share that is in excess of 5%, or an amount greater than 60% of the annual salary of the Governor, of the bidding entity or its parent entity, whichever is less, unless the contractor or bidder is a publicly traded entity subject to Federal 10K reporting, in which case it may submit its 10K disclosure in place of the prescribed disclosure. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. The disclosure shall include the names, addresses, and dollar or proportionate share of ownership of each person making the disclosure, their instrument of ownership or beneficial relationship, and notice of any potential conflict of interest resulting from the current ownership or beneficial interest of each person making the disclosure having any of the relationships identified in Section 50-35 and on the disclosure form.

In addition, all disclosures shall indicate any other current or pending contracts, proposals, leases, or other ongoing procurement relationships the bidding entity has with any other unit of state government and shall clearly identify the unit and the contract, proposal, lease, or other relationship.

2. Disclosure Forms. Disclosure Form A is attached for use concerning the individuals meeting the above ownership or distributive share requirements. Subject individuals should be covered each by one form. In addition, a second form (Disclosure Form B) provides for the disclosure of current or pending procurement relationships with other (non-IDOT) state agencies. **The forms must be included with each bid or incorporated by reference.**

C. Disclosure Form Instructions

Form A: For bidders that have previously submitted the information requested in Form A

The Department has retained the Form A disclosures submitted by all bidders responding to these requirements for the April 24, 1998 or any subsequent letting conducted by the Department. The bidder has the option of submitting the information again or the bidder may sign the following certification statement indicating that the information previously submitted by the bidder is, as of the date of signature, current and accurate. The Certification must be signed and dated by a person who is authorized to execute contracts for the bidding company. Before signing this certification, the bidder should carefully review its prior submissions to ensure the Certification is correct. If the Bidder signs the Certification, the Bidder should proceed to Form B instructions.

CERTIFICATION STATEMENT

I have determined that the Form A disclosure information previously submitted is current and accurate, and all forms are hereby incorporated by reference in this bid. Any necessary additional forms or amendments to previously submitted forms are attached to this bid.

_____
(Bidding Company)

_____ _____
Name of Authorized Representative (type or print) Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative Date

Form A: For bidders who have NOT previously submitted the information requested in Form A

If the bidder is a publicly traded entity subject to Federal 10K reporting, the 10K Report may be submitted to meet the requirements of Form A. If a bidder is a privately held entity that is exempt from Federal 10K reporting, but has more than 400 shareholders, it may submit the information that Federal 10K companies are required to report, and list the names of any person or entity holding any ownership share that is in excess of 5%. If a bidder is not subject to Federal 10K reporting, the bidder must determine if any individuals are required by law to complete a financial disclosure form. To do this, the bidder should answer each of the following questions. A "YES" answer indicates Form A must be completed. If the answer to each of the following questions is "NO", then the NOT APPLICABLE STATEMENT on the second page of Form A must be signed and dated by a person that is authorized to execute contracts for the bidding company. Note: These questions are for assistance only and are not required to be completed.

1. Does anyone in your organization have a direct or beneficial ownership share of greater than 5% of the bidding entity or parent entity? YES ___ NO___
2. Does anyone in your organization have a direct or beneficial ownership share of less than 5%, but which has a value greater than $90,420.00? YES ___ NO___
3. Does anyone in your organization receive more than $90,420.00 of the bidding entity's or parent entity's distributive income? (Note: Distributive income is, for these purposes, any type of distribution of profits. An annual salary is not distributive income.) YES ___ NO __
4. Does anyone in your organization receive greater than 5% of the bidding entity's or parent entity's total distributive income, but which is less than $90,420.00? YES ___ NO __

   (Note: Only one set of forms needs to be completed per person per bid even if a specific individual would require a yes answer to more than one question.)

A "YES" answer to any of these questions requires the completion of Form A. The bidder must determine each individual in the bidding entity or the bidding entity's parent company that would cause the questions to be answered "Yes". Each form must be signed and dated by a person that is authorized to execute contracts for your organization. **Photocopied or stamped signatures are not acceptable**. The person signing can be, but does not have to be, the person for which the form is being completed. The bidder is responsible for the accuracy of any information provided.

If the answer to each of the above questions is "NO", then the NOT APPLICABLE STATEMENT on page 2 of Form A must be signed and dated by a person that is authorized to execute contracts for your company.

Form B: Identifying Other Contracts & Procurement Related Information Disclosure Form B must be completed for each bid submitted by the bidding entity. It must be signed by an individual who is authorized to execute contracts for the bidding entity. *Note: Signing the NOT APPLICABLE STATEMENT on Form A does not allow the bidder to ignore Form B. Form B must be completed, signed and dated or the bidder may be considered nonresponsive and the bid will not be accepted.*

The Bidder shall identify, by checking Yes or No on Form B, whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other (non-IDOT) State of Illinois agency. If "No" is checked, the bidder only needs to complete the signature box on the bottom of Form B. If "Yes" is checked, the bidder must do one of the following:

Option I: If the bidder did not submit an Affidavit of Availability to obtain authorization to bid, the bidder must list all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. These items may be listed on Form B or on an attached sheet(s). Do not include IDOT contracts. Contracts with cities, counties, villages, etc. are not considered State of Illinois agency contracts and are not to be included. Contracts with other State of Illinois agencies such as the Department of Natural Resources or the Capital Development Board must be included. Bidders who submit Affidavits of Availability are suggested to use Option II.

Option II: If the bidder is required and has submitted an Affidavit of Availability in order to obtain authorization to bid, the bidder may write or type "See Affidavit of Availability" which indicates that the Affidavit of Availability is incorporated by reference and includes all non-IDOT State of Illinois agency pending contracts, leases, bids, proposals, and other ongoing procurement relationships. For any contracts that are not covered by the Affidavit of Availability, the bidder must identify them on Form B or on an attached sheet(s). These might be such things as leases.

D. Bidders Submitting More Than One Bid

Bidders submitting multiple bids may submit one set of forms consisting of all required Form A disclosures and one Form B for use with all bids. Please indicate in the space provided below the bid item that contains the original disclosure forms and the bid items which incorporate the forms by reference.

- The bid submitted for letting item _____ contains the Form A disclosures or Certification Statement and the Form B disclosures. The following letting items incorporate the said forms by reference:

_____

_____

RETURN WITH BID/OFFER

ILLINOIS DEPARTMENT OF TRANSPORTATION

Form A
Financial Information & Potential Conflicts of Interest Disclosure

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Code (30 ILCS 500). Vendors desiring to enter into a contract with the State of Illinois must disclose the financial information and potential conflict of interest information as specified in this Disclosure Form. This information shall become part of the publicly available contract file. This Form A must be completed for bids in excess of $10,000, and for all open-ended contracts. **A publicly traded company may submit a 10K disclosure (or equivalent if applicable) in satisfaction of the requirements set forth in Form A. See Disclosure Form Instructions.**

DISCLOSURE OF FINANCIAL INFORMATION

1. Disclosure of Financial Information. The individual named below has an interest in the BIDDER (or its parent) in terms of ownership or distributive income share in excess of 5%, or an interest which has a value of more than $90,420.00 (60% of the Governor's salary as of 7/1/01). **(Make copies of this form as necessary and attach a separate Disclosure Form A for each individual meeting these requirements)**

FOR INDIVIDUAL (type or print information)

NAME: _____

ADDRESS _____

_____

Type of ownership/distributable income share:

stock _____ sole proprietorship _____ Partnership _____ other: (explain on separate sheet):

% or $ value of ownership/distributable income share: _____

2. Disclosure of Potential Conflicts of Interest. Check "Yes" or "No" to indicate which, if any, of the following potential conflict of interest relationships apply. If the answer to any question is "Yes", please attach additional pages and describe.

(a) State employment, currently or in the previous 3 years, including contractual employment of services. Yes ___ No __

If your answer is yes, please answer each of the following questions.

1. Are you currently an officer or employee of either the Capitol Development Board or the Illinois Toll Highway Authority? Yes ___ No __

2. Are you currently appointed to or employed by any agency of the State of Illinois? If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds $90,420.00, (60% of the Governor's salary as of 7/1/01) provide the name the State agency for which you are employed and your annual salary. _____
_____

3. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds $90,420.00, (60% of the Governor's salary as of 7/1/01) are you entitled to receive (i) more than 7 1/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of the salary of the Governor? Yes ___ No __

4. If you are currently appointed to or employed by any agency of the State of Illinois, and your annual salary exceeds $90,420.00, (60% of the Governor's salary as of 7/1/01) are you and your spouse or minor children entitled to receive (i) more than 15% in aggregate of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of 2 times the salary of the Governor? Yes ___ No __

(b) State employment of spouse, father, mother, son, or daughter, including contractual employment for services in the previous 2 years.

Yes ___No __

If your answer is yes, please answer each of the following questions.

1. Is your spouse or any minor children currently an officer or employee of the Capitol Development Board or the Illinois Toll Highway Authority? Yes ___No __

2. Is your spouse or any minor children currently appointed to or employed by any agency of the State of Illinois? If your spouse or minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds $90,420.00, (60% of the Governor's salary as of 7/1/01) provide the name of the spouse and/or minor children, the name of the State agency for which he/she is employed and his/her annual salary. _____
_____

3. If your spouse or any minor children is/are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds $90,420.00, (60% of the salary of the Governor as of 7/1/01) are you entitled to receive (i) more than 71/2% of the total distributable income of your firm, partnership, association or corporation, or (ii) an amount in excess of the salary of the Governor? Yes ___ No __

4. If your spouse or any minor children are currently appointed to or employed by any agency of the State of Illinois, and his/her annual salary exceeds $90,420.00, (60% of the Governor's salary as of 7/1/01) are you and your spouse or any minor children entitled to receive (i) more than 15% in the aggregate of the total distributable income from your firm, partnership, association or corporation, or (ii) an amount in excess of 2 times the salary of the Governor?

Yes ___ No __

(c) Elective status; the holding of elective office of the State of Illinois, the government of the United States, any unit of local government authorized by the Constitution of the State of Illinois or the statutes of the State of Illinois currently or in the previous 3 years. Yes ___No __

(d) Relationship to anyone holding elective office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___No __

(e) Appointive office; the holding of any appointive government office of the State of Illinois, the United State of America, or any unit of local government authorized by the Constitution of the State of Illinois or the statues of the State of Illinois, which office entitles the holder to compensation in excess of the expenses incurred in the discharge of that office currently or in the previous 3 years. Yes ___No __

(f) Relationship to anyone holding appointive office currently or in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___No __

(g) Employment, currently or in the previous 3 years, as or by any registered lobbyist of the State government. Yes ___No __

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(h) Relationship to anyone who is or was a registered lobbyist in the previous 2 years; spouse, father, mother, son, or daughter. Yes ___No __

(i) Compensated employment, currently or in the previous 3 years, by any registered election or reelection committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections.
Yes ___ No __

(j) Relationship to anyone; spouse, father, mother, son, or daughter; who was a compensated employee in the last 2 years by any registered election or re-election committee registered with the Secretary of State or any county clerk of the State of Illinois, or any political action committee registered with either the Secretary of State or the Federal Board of Elections.
Yes ___ No __

APPLICABLE STATEMENT

This Disclosure Form A is submitted on behalf of the INDIVIDUAL named on previous page.

Completed by: _____
Name of Authorized Representative (type or print)

Completed by: _____
Title of Authorized Representative (type or print)

Completed by: _____ _____
Signature of Individual or Authorized Representative — Date

NOT APPLICABLE STATEMENT

I have determined that no individuals associated with this organization meet the criteria that would require the completion of this Form A.

This Disclosure Form A is submitted on behalf of the CONTRACTOR listed on the previous page.

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative — Date

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ILLINOIS DEPARTMENT OF TRANSPORTATION

Form B
Other Contracts & Procurement Related Information Disclosure

Contractor Name		
Legal Address		
City, State, Zip		
Telephone Number	Email Address	Fax Number (if available)

Disclosure of the information contained in this Form is required by the Section 50-35 of the Illinois Procurement Act (30 ILCS 500). This information shall become part of the publicly available contract file. This Form B must be completed for bids in excess of $10,000, and for all open-ended contracts.

DISCLOSURE OF OTHER CONTRACTS AND PROCUREMENT RELATED INFORMATION

1. Identifying Other Contracts & Procurement Related Information. The BIDDER shall identify whether it has any pending contracts (including leases), bids, proposals, or other ongoing procurement relationship with any other State of Illinois agency: Yes ___ No __
If "No" is checked, the bidder only needs to complete the signature box on the bottom of this page.

2. If "Yes" is checked. Identify each such relationship by showing State of Illinois agency name and other descriptive information such as bid or project number (attach additional pages as necessary). SEE DISCLOSURE FORM INSTRUCTIONS:

THE FOLLOWING STATEMENT MUST BE SIGNED

_____
Name of Authorized Representative (type or print)

_____
Title of Authorized Representative (type or print)

_____ _____
Signature of Authorized Representative Date

RETURN WITH BID

SPECIAL NOTICE TO CONTRACTORS

The following requirements of the Illinois Department of Human Rights' Rules and Regulations are applicable to bidders on all construction contracts advertised by the Illinois Department of Transportation:

CONSTRUCTION EMPLOYEE UTILIZATION PROJECTION

(a) All bidders on construction contracts shall complete and submit, along with and as part of their bids, a Bidder's Employee Utilization Form (Form BC-1256) setting forth a projection and breakdown of the total workforce intended to be hired and/or allocated to such contract work by the bidder including a projection of minority and female employee utilization in all job classifications on the contract project.

(b) The Department of Transportation shall review the Employee Utilization Form, and workforce projections contained therein, of the contract awardee to determine if such projections reflect an underutilization of minority persons and/or women in any job classification in accordance with the Equal Employment Opportunity Clause and Section 7.2 of the Illinois Department of Human Rights' Rules and Regulations for Public Contracts adopted as amended on September 17, 1980. If it is determined that the contract awardee's projections reflect an underutilization of minority persons and/or women in any job classification, it shall be advised in writing of the manner in which it is underutilizing and such awardee shall be considered to be in breach of the contract unless, prior to commencement of work on the contract project, it submits revised satisfactory projections or an acceptable written affirmative action plan to correct such underutilization including a specific timetable geared to the completion stages of the contract.

(c) The Department of Transportation shall provide to the Department of Human Rights a copy of the contract awardee's Employee Utilization Form, a copy of any required written affirmative action plan, and any written correspondence related thereto. The Department of Human Rights may review and revise any action taken by the Department of Transportation with respect to these requirements.

Rev. 3/98

RETURN WITH BID

Illinois Department of Transportation

Contract No. 83729
LAKE County
Section 98-00254-00-CH (Vernon Hills)
Project CMM-8003(423)
Route FAU 3502 (U.S. Route 45)
District 1 Construction Funds

PART I. IDENTIFICATION

Dept. Human Rights # _____ Duration of Project: _____

Name of Bidder: _____

PART II. WORKFORCE PROJECTION

A. The undersigned bidder has analyzed minority group and female populations, unemployment rates and availability of workers for the location in which this contract work is to be performed, and for the locations from which the bidder recruits employees, and hereby submits the following workforce projection including a projection for minority and female employee utilization in all job categories in the workforce to be allocated to this contract:

TABLE A

TOTAL Workforce Projection for Contract													TABLE B: CURRENT EMPLOYEES TO BE ASSIGNED TO CONTRACT			
			MINORITY EMPLOYEES						TRAINEES				TOTAL EMPLOYEES		MINORITY EMPLOYEES	
JOB CATEGORIES	TOTAL EMPLOYEES		BLACK		HISPANIC		*OTHER MINOR.		APPREN-TICES		ON THE JOB TRAINEES					
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
OFFICIALS (MANAGERS)																
SUPERVISORS																
FOREMEN																
CLERICAL																
EQUIPMENT OPERATORS																
MECHANICS																
TRUCK DRIVERS																
IRONWORKERS																
CARPENTERS																
CEMENT MASONS																
ELECTRICIANS																
PIPEFITTERS, PLUMBERS																
PAINTERS																
LABORERS, SEMI-SKILLED																
LABORERS, UNSKILLED																
TOTAL																

TABLE C

TOTAL Training Projection for Contract								
EMPLOYEES IN TRAINING	TOTAL EMPLOYEES		BLACK		HISPANIC		*OTHER MINOR.	
	M	F	M	F	M	F	M	F
APPRENTICES								
ON THE JOB TRAINEES								

*Other minorities are defined as Asians (A) or Native Americans (N).

Please specify race of each employee shown in Other Minorities column.

FOR DEPARTMENT USE ONLY

Note: See instructions on the next page

RETURN WITH BID

Contract No. 83729
LAKE County
Section 98-00254-00-CH (Vernon Hills)
Project CMM-8003(423)
Route FAU 3502 (U.S. Route 45)
District 1 Construction Funds

PART II. WORKFORCE PROJECTION - continued

B. Included in "Total Employees" under Table A is the total number of **new hires** that would be employed in the event the undersigned bidder is awarded this contract.

The undersigned bidder projects that: (number) _____ new hires would be recruited from the area in which the contract project is located; and/or (number) _____ new hires would be recruited from the area in which the bidder's principal office or base of operation is located.

C. Included in "Total Employees" under Table A is a projection of numbers of persons to be employed directly by the undersigned bidder as well as a projection of numbers of persons to be employed by subcontractors.

The undersigned bidder estimates that (number) _____ persons will be directly employed by the prime contractor and that (number) _____ persons will be employed by subcontractors.

PART III. AFFIRMATIVE ACTION PLAN

A. The undersigned bidder understands and agrees that in the event the foregoing minority and female employee utilization projection included under **PART II** is determined to be an underutilization of minority persons or women in any job category, and in the event that the undersigned bidder is awarded this contract, he/she will, prior to commencement of work, develop and submit a written Affirmative Action Plan including a specific timetable (geared to the completion stages of the contract) whereby deficiencies in minority and/or female employee utilization are corrected. Such Affirmative Action Plan will be subject to approval by the contracting agency and the **Department of Human Rights**.

B. The undersigned bidder understands and agrees that the minority and female employee utilization projection submitted herein, and the goals and timetable included under an Affirmative Action Plan if required, are deemed to be part of the contract specifications.

Company _____ Telephone Number _____

_____

Address _____

NOTICE REGARDING SIGNATURE

The Bidder's signature on the Proposal Signature Sheet will constitute the signing of this form. The following signature block needs to be completed only if revisions are required.

Signature: _____ Title: _____ Date: _____

Instructions: All tables must include subcontractor personnel in addition to prime contractor personnel.

Table A - Include both the number of employees that would be hired to perform the contract work and the total number currently employed (Table B) that will be allocated to contract work, and include all apprentices and on-the-job trainees. The "Total Employees" column should include all employees including all minorities, apprentices and on-the-job trainees to be employed on the contract work.

Table B - Include all employees currently employed that will be allocated to the contract work including any apprentices and on-the-job trainees currently employed.

Table C - Indicate the racial breakdown of the total apprentices and on-the-job trainees shown in Table A.

RETURN WITH BID

ADDITIONAL FEDERAL REQUIREMENTS

In addition to the Required Contract Provisions for Federal-Aid Construction Contracts (FHWA 1273), all bidders make the following certifications.

A. By the execution of this proposal, the signing bidder certifies that the bidding entity has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid. This statement made by the undersigned bidder is true and correct under penalty of perjury under the laws of the United States.

B. CERTIFICATION, EQUAL EMPLOYMENT OPPORTUNITY:

1. Have you participated in any previous contracts or subcontracts subject to the equal opportunity clause. YES _____ NO _____

2. If answer to #1 is yes, have you filed with the Joint Reporting Committee, the Director of OFCC, any Federal agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements of those organizations? YES _____ NO _____

RETURN WITH BID

Contract No. 83729
LAKE County
Section 98-00254-00-CH (Vernon Hills)
Project CMM-8003(423)
Route FAU 3502 (U.S. Route 45)
District 1 Construction Funds

PROPOSAL SIGNATURE SHEET

The undersigned bidder hereby makes and submits this bid on the subject Proposal, thereby assuring the Department that all requirements of the Invitation for Bids and rules of the Department have been met, that there is no misunderstanding of the requirements of paragraph 3 of this Proposal, and that the contract will be executed in accordance with the rules of the Department if an award is made on this bid.

Firm Name _____

(IF AN INDIVIDUAL) Signature of Owner _____

Business Address _____

_____

Firm Name _____

By _____

(IF A CO-PARTNERSHIP) Business Address _____

_____

Name and Address of All Members of the Firm:

_____ _____

Corporate Name _____

By _____
Signature of Authorized Representative

(IF A CORPORATION)

_____
Typed or printed name and title of Authorized Representative

Attest _____
Signature

(IF A JOINT VENTURE, USE THIS SECTION FOR THE MANAGING PARTY AND THE SECOND PARTY SHOULD SIGN BELOW) Business Address _____

Corporate Name _____

By _____
Signature of Authorized Representative

(IF A JOINT VENTURE)

_____
Typed or printed name and title of Authorized Representative

Attest _____
Signature

Business Address _____

_____

If more than two parties are in the joint venture, please attach an additional signature sheet.

RETURN WITH BID

Illinois Department of Transportation

Division of Highways
Proposal Bid Bond
(Effective November 1, 1992)

Item No. _____
Letting Date _____

KNOW ALL MEN BY THESE PRESENTS, That We _____

_____

as PRINCIPAL, and _____

_____ as SURETY, are held jointly, severally and firmly bound unto the STATE OF ILLINOIS in the penal sum of 5 percent of the total bid price, or for the amount specified in Article 102.09 of the "Standard Specifications for Road and Bridge Construction" in effect on the date of invitation for bids, whichever is the lesser sum, well and truly to be paid unto said STATE OF ILLINOIS, for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, That Whereas, the PRINCIPAL has submitted a bid proposal to the STATE OF ILLINOIS, acting through the Department of Transportation, for the improvement designated by the Transportation Bulletin Item Number and Letting Date indicated above.

NOW, THEREFORE, if the Department shall accept the bid proposal of the PRINCIPAL; and if the PRINCIPAL shall, within the time and as specified in the bidding and contract documents, submit a DBE Utilization Plan that is accepted and approved by the Department; and if, after award by the Department, the PRINCIPAL shall enter into a contract in accordance with the terms of the bidding and contract documents including evidence of the required insurance coverages and providing such bond as specified with good and sufficient surety for the faithful performance of such contract and for the prompt payment of labor and material furnished in the prosecution thereof; or if, in the event of the failure of the PRINCIPAL to make the required DBE submission or to enter into such contract and to give the specified bond, the PRINCIPAL pays to the Department the difference not to exceed the penalty hereof between the amount specified in the bid proposal and such larger amount for which the Department may contract with another party to perform the work covered by said bid proposal, then this obligation shall be null and void, otherwise, it shall remain in full force and effect.

IN THE EVENT the Department determines the PRINCIPAL has failed to comply with any requirement as set forth in the preceding paragraph, then Surety shall pay the penal sum to the Department within fifteen (15) days of written demand therefor. If Surety does not make full payment within such period of time, the Department may bring an action to collect the amount owed. Surety is liable to the Department for all its expenses, including attorney's fees, incurred in any litigation in which it prevails either in whole or in part.

In TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____ A.D., _____.

PRINCIPAL	**SURETY**
_____ (Company Name)	_____ (Company Name)
By: _____ (Signature & Title)	By: _____ (Signature of Attorney-in-Fact)

Notary Certification for Principal and Surety

STATE OF ILLINOIS,
COUNTY OF _____

I, _____, a Notary Public in and for said County, do hereby certify that

_____and _____

(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ day of _____, A.D. _____.

My commission expires _____ _____
Notary Public

In lieu of completing the above section of the Proposal Bid Form, the Principal may file an Electronic Bid Bond. By signing below the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the State of Illinois under the conditions of the bid bond as shown above.

Electronic Bid Bond ID#	Company/Bidder Name	Signature and Title
_____	_____	_____

PROPOSAL ENVELOPE

Illinois Department of Transportation

PROPOSALS

for construction work advertised for bids by the
Illinois Department of Transportation

Item No.	Item No.	Item No.

Submitted By:

Name:
Address:
Phone No.

Bidders should use an IDOT proposal envelope or affix this form to the front of a 10” x 13” envelope for the submittal of bids. If proposals are mailed, they should be enclosed in a second or outer envelope addressed to:

Engineer of Design and Environment - Room 323
Illinois Department of Transportation
2300 South Dirksen Parkway
Springfield, Illinois 62764

NOTICE

Individual bids, including Bid Bond and/or supplemental information if required, should be securely stapled.

CONTRACTOR OFFICE COPY OF CONTRACT SPECIFICATIONS

NOTICE

None of the following material needs to be returned with the bid package unless the special provisions require documentation and/or other information to be submitted.

Contract No. 83729
LAKE County
Section 98-00254-00-CH (Vernon Hills)
Project CMM-8003(423)
Route FAU 3502 (U.S. Route 45)
District 1 Construction Funds

Illinois Department of Transportation

Illinois Department of Transportation

NOTICE TO BIDDERS

1. **TIME AND PLACE OF OPENING BIDS.** Sealed proposals for the improvement described herein will be received by the Department of Transportation at the Harry R. Hanley Building, 2300 South Dirksen Parkway, in Springfield, Illinois until 10:00 o'clock a.m., November 5, 2004. All bids will be gathered, sorted, publicly opened and read in the auditorium at the Department of Transportation's Harry R. Hanley Building shortly after the 10:00 a.m. cut off time.

2. **DESCRIPTION OF WORK**. The proposed improvement is identified and advertised for bids in the Invitation for Bids as:

   Contract No. 83729
   LAKE County
   Section 98-00254-00-CH (Vernon Hills)
   Project CMM-8003(423)
   Route FAU 3502 (U.S. Route 45)
   District 1 Construction Funds

Project consists of the re-alignment and construction of Prairie Road, widening and resurfacing of U.S. Route 45 and the new construction of Fairway Drive with a new traffic signal at the intersection of U.S. Route 45 in Vernon Hills;

3. **INSTRUCTIONS TO BIDDERS**. (a) This Notice, the invitation for bids, proposal and letter of award shall, together with all other documents in accordance with Article 101.09 of the Standard Specifications for Road and Bridge Construction, become part of the contract. Bidders are cautioned to read and examine carefully all documents, to make all required inspections, and to inquire or seek explanation of the same prior to submission of a bid.

   (b) State law, and, if the work is to be paid wholly or in part with Federal-aid funds, Federal law requires the bidder to make various certifications as a part of the proposal and contract. By execution and submission of the proposal, the bidder makes the certification contained therein. A false or fraudulent certification shall, in addition to all other remedies provided by law, be a breach of contract and may result in termination of the contract.

4. **AWARD CRITERIA AND REJECTION OF BIDS**. This contract will be awarded to the lowest responsive and responsible bidder considering conformity with the terms and conditions established by the Department in the rules, Invitation for Bids and contract documents. The issuance of plans and proposal forms for bidding based upon a prequalification rating shall not be the sole determinant of responsibility. The Department reserves the right to determine responsibility at the time of award, to reject any or all proposals, to readvertise the proposed improvement, and to waive technicalities.

By Order of the
Illinois Department of Transportation

Timothy W. Martin, Secretary

BD 351 (Rev. 01/2003)

CHECKSHEET
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2004 (Rev. 7/1/04)

This sheet contains a listing of the ERRATA, and SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS and RECURRING LOCAL ROADS AND STREETS SPECIAL PROVISIONS.

SUPPLEMENTAL SPECIFICATIONS

The following RECURRING SPECIAL PROVISIONS and RECURRING LOCAL ROADS AND STREETS SPECIAL PROVISIONS indicated by an "X" are applicable to this contract and are included by reference:

RECURRING SPECIAL PROVISIONS

RECURRING LOCAL ROADS AND STREETS SPECIAL PROVISIONS

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Special Provisions

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INDEX INTERIM SPECIAL PROVISIONS (CONT'D)

STATE OF ILLINOIS
SPECIAL PROVISIONS

The following Special Provisions supplement the **"Standard Specifications for Road and Bridge Constructions"**, adopted January 1, 2002, (hereinafter referred to as the "Standard Specifications"); the **"Supplemental Specifications and Recurring Special Provisions"**, adopted January 1, 2004; the latest edition of the **"Illinois Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)**; and the latest edition of the **"Village of Vernon Hills Development Ordinance"**; all of which apply to and govern the construction of F.A.U. Route 2666 (Fairway Drive), Vernon Hills Section: 98-00026-01-CH, Project: CMM-7003 (905) in Lake County, and in case of conflict with any parts or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF IMPROVEMENT

This improvement is located in the Village of Vernon Hills in Lake County, IL. The improvement along Prairie Road begins at approximately the north abutment of the bridge across the Indian Creek and ends on Fairway Drive at a point approximately 35.5 feet south of the centerline of Huron Street. The length of this portion of the improvement along Prairie Road/Fairway Drive is 1,447.3 feet. The improvements along U.S Route 45 begins approximately 1,461.5 feet northwest of the intersection with Prairie Road and extends approximately 1,047.1 feet southeast of the intersection, for a total length of approximately 2,508.6 feet. The total length of the project is approximately 3,955.9 feet.

DESCRIPTION OF IMPROVEMENT

This project consists of the re-alignment and construction of Prairie Road, primarily west of the current alignment. The work along Fairway Drive, north of U.S. Route 45 consists of new construction, matching the end of an adjacent improvement. Along U.S. Route 45, the project consists of widening and resurfacing, to allow for a minor re-alignment and left turn lanes at the intersection. A new traffic signal is to be installed at the intersection. The work to be performed under this contract consists of earth excavation, construction of storm sewers, drainage structures, water main relocation, combination concrete curb and gutter, bituminous base, binder and surface courses, portland cement concrete and bituminous sidewalks, pavement removal, combination concrete curb and gutter removal, traffic signal installation and all incidental and collateral work necessary to complete the project as shown on the plans and as described herein.

GENERAL CONDITIONS

The Contractor's attention is directed to the following:

1. Should the Contractor desire to obtain water for construction purposes from the local area, the Contractor will be responsible for making arrangements through the Lake County Public Works Department. Lake County Public Works will instruct the Contractor where a potable water supply from a hydrant near the work site is located. The County shall meter the potable water used by the Contractor and the Contractor will be charged for the water used at the County rates. The Contractor is responsible for the transportation of the water to the site where needed. The cost of transporting the water shall be considered incidental to the cost of mobilization. All aspects of the use of the water by the Contractor are considered incidental to the contract.

2. Working Hours / Working Days - Construction activities may occur between 7:00 a.m. and 7:00 p.m., Monday through Friday, and 8:30 a.m. to 5:00 p.m. on Saturdays. Construction activities on Sundays are prohibited. No work will be performed on holidays observed in Illinois. Construction activities are defined as the operation of heavy equipment, to included but not limited to all construction trucks and equipment. This is to include the warming up of any piece of equipment or turning on the engines. Construction activities shall not begin before 7:00 a.m.

   Inspection and Layout - The Contractor shall be responsible for having the finished work conform to the lines, grades, elevations, and dimensions called for in the plans. The Contractor shall be held responsible for the quality and completeness of his work. The Engineer is the Village's representative to verify quality and completeness. Any construction layout necessary shall be coordinated through the Resident Engineer. The Contractor shall exercise care in the preservation of stakes and bench marks and shall have them reset at his/her expense when any are damaged, lost, displaced, or removed or otherwise obliterated.

3. Temporary Toilet - The Contractor shall provide a temporary toilet facility for the use of all contractors' personnel employed on the work, and shall maintain same in proper sanitary condition. At completion, the facility shall be removed and the premises left clean. The Engineer shall approve the location of the temporary toilet. The cost of this facility is considered incidental to the contract.

4. Disposal of Waste Excavated Material - The Contractor shall remove from the project site all unsuitable excavated material. This material will be classified as all material that the Engineer deems unsuitable, such as rebar, abandoned wire, etc. The waste excavated material shall not be deposited on public or private property unless the Contractor first obtains the written permission from the property owner or the authorized representative of the appropriate public agency. The removal of unsuitable material from the site will be incidental to this contract and no compensation will be paid.

The cost of complying with the above General Conditions shall be considered incidental to the contract unless specifically covered elsewhere in the Special Provisions.

ADDITIONAL INSURED

In addition to the insurance requirements of Article 107.27 of the "Standard Specifications", the Contractor will need to purchase insurance certificates in the name of Edward P. Brady and Shari A. Brady (herein referred to as the Additional Insured), husband and wife, as joint tenants. The insurance certificates shall be for public liability and property damage in which the Additional Insured and their agents are named insured as well as fire and extended coverage and all risk property insurance ("CLAIMS MADE" policies are unacceptable) in which the Additional Insured is named loss payee from a company to be approved by the Additional Insured. Each aforereferenced policy shall have limits of not less than the following:

COMPREHENSIVE GENERAL LIABILITY
Combined Single Limit Bodily Injury Liability
Property Damage Liability (Including Liability for
Environmental Contamination of Adjacent Properties)
In the amount of not less than $100,000.00 per Occurance
and
ALL RISK PROPERTY INSURANCE
(Including Coverage for Environmental
Contamination of Easement Premises)
In the amount of not less than $100,000.00 per Occurance

All costs for additional insurance and performance bond as specified above will not be paid for separately, but included in the cost of the contract.

EXISTING UTILITIES

The Contractor shall familiarize himself with the locations of all utilities and structures that may be found in the vicinity of the construction. The Contractor shall conduct his operations so as to avoid damage to any existing utilities and structures currently in use and scheduled to remain. Should any damage occur due to the Contractor's negligence, repairs shall be made by the Contractor at his expense in a manner acceptable to the Engineer and the owner of the utility. The Contractor shall notify all utility owners of his construction schedule, and shall coordinate construction operations with the utility owners so that relocation of utility lines and structures may proceed in an orderly manner. Notification shall be in writing with copies transmitted to the Engineer.

Electricity Commonwealth Edison Company 1500 Franklin Boulevard Libertyville, Illinois 60048 Attn: Ms. Terri Bleck (847) 816- 5239	**Telephone** SBC 1200 N. Arlington Heights Rd. Arlington Heights, IL 60004 Attn: Mr. Matt Pilkington (847) 506-8705
Telephone TDS Metrocom 20875 Crossroads Circle, Suite 800 Waukesha, WI 53186 Attn: Mr. Michael Johnson (262) 754-3052	**Water Main and Sanitary Sewer** Lake County Public Works 650 West Winchester Road Libertyville, Illinois 60048-1391 Attn: Mr. Greg Goldbogen, P.E. (847) 377-7500
Storm Sewer and Street Lights Village of Vernon Hills Public Works 490 Greenleaf Drive Vernon Hills, Illinois 60061 Attn: Mr. Ed Laudenslager, P.E. (847) 367-3726	**Natural Gas** North Shore Gas 3001 Grand Avenue Waukegan, Illinois 60085 Attn: Mr. Michael Schyman (847) 263-4680
Cable Comcast Cable Communications, Inc. (formerly AT&T Cable) Mr. Robert Schulter Public Improvement Coordinator 688 Industrial Drive Elmhurst, IL 60126 (630) 600-6346	**Village of Buffalo Grove** Village of Buffalo Grove Public Works Attn: Mr. Gregory Boysen, P.E. Village of Buffalo Engineering Department Attn: Mr. Richard Kuenkler, P.E. 51 Raupp Boulevard Buffalo Grove, Illinois 60089 **(847) 459-2500**

PROTECTION OF UTILITIES

During construction, all existing utilities, except those called out for removal, shall be protected, supported and maintained in service, all at no extra remuneration. Should any existing utility that is still in service be damaged, the Contractor shall immediately notify the utility representative for the utility damaged as given in previous section on **EXISTING UTILITIES** and pay the cost of repairing said utility. The location of public or private utilities shown on the plans contained within this contract are approximate and their accuracy is not guaranteed. The Contractor shall be required to ascertain the exact location of such utilities so as not to damage them in accordance with Article 107.31 of the "Standard Specifications". No added compensation will be paid therefore.

CONSTRUCTION SAFETY

The Contractor shall take all precautions necessary to protect the general public and his workmen from hazardous locations and/or conditions that might occur within the limits of the improvement. Safety within the work site is the total and complete responsibility of the Contractor.

The duty of the Engineer is to inspect all work done and materials furnished. Should the work be found to have been performed improperly, that portion of the work may be suspended. However, this does not include review or approval of the adequacy of the Contractor's safety measures and methods on or near the construction site.

PERMITS

The Contractor is required to secure any construction permits beyond the Village level necessary for the construction to be performed as part of this contract.

ACCESS TO SITE

Access to the site during construction shall only be from U.S. Route 45. Construction traffic is prohibited from the Centennial Crossing sub-division via Huron Street. Access, by Lake County personnel, to the Lake County Public Works Pump Station shall be maintained continuously throughout the duration of the project.

MAINTENANCE OF ROADWAYS

Beginning on the date that the Contractor begins work on this project, the Contractor shall assume responsibility for the normal maintenance of all roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection required for this work will be provided by the Contractor as required by the Engineer.

The work involved in maintaining the existing pavement and shoulders as above specified will be paid for separately at the respective contract unit prices for the various items of work involved unless specified elsewhere in these Special Provisions. Traffic control and protection required for this work shall be paid for as specified in these Special Provisions.

If no such items of work have been provided for in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for as extra work, in accordance with Article 109.04 of the Standard Specifications.

COOPERATION WITH ADJACENT CONTRACTS

The intent of this provision is to inform the Contractor that IDOT and Lake County are aware of adjacent contracts that are currently scheduled during the same time period as this contract:
IDOT Contract No 83656, Section 93-00081-04-CH, Buffalo Grove Road at Port Clinton Road

This contract and the above mentioned Contract 83656 both have provisions for road closures and detouring of traffic. Maintenance of traffic and staging requirements will not allow both closures to be in effect simultaneously. The Contractor will be required to coordinate with Contract No 83656 so that the detour plan contained in this Contract is not implemented concurrently at any time with the road closures associated with Contract 83656.

The Contractor is required to cooperate with these adjacent contracts in accordance with Section 105.08 of the Standard Specifications and may be required to modify his staging operations in order to meet these requirements. No compensation will be allowed to the Contractor for complying with this special provision.

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

This work shall consist of the removal and disposal of unsuitable material at an appropriate off-site location. The disposal, measuring, and payment of unsuitable material shall be done in accordance with Section 202 of the "Standard Specifications".

All materials to be classified as unsuitable materials shall be done so in accordance with Section 202 of the "Standard Specifications".

Soil tests taken for this project indicate that at various locations, soft unstable soils of varying depths exist which may require removal and replacement with porous granular embankment prior to the placing of bituminous base course or earth embankment material.

The soil report was utilized to determine the locations given in the schedule for Porous Granular Embankment, Subgrade located in the plans for this contract. At these locations, an attempt shall be made to prepare the subgrade in accordance with Section 301 of the "Standard Specifications". If the Engineer determines that stabilization cannot be obtained, undercutting to the maximum depth indicated and replacement with porous granular embankment, subgrade and geotechnical fabric shall be the required treatment.

The plans, profiles, and cross-sections show the approximate limits of removal and replacements with porous granular embankment for the locations given in the schedule. Quantities for **REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL** and **POROUS GRANULAR EMBANKMENT, SUBGRADE** have been computed to include these locations.

At all locations, the actual extent of removal and replacement shall be determined by the Engineer in the field at the time of construction. Undercuts deeper than the maximums indicated in the schedule shall be justified based upon a cone penetrometer test. In all cases, the undercut shall extend to one foot outside the edges of the bituminous pavement (or the backs of curbs in curb and gutter sections) and come up at a 1:1 slope to the existing ground surface.

A proof rolling procedure acceptable to the Engineer shall be followed in order to verify the stability of the subgrade prior to the placement of earth embankment or porous granular embankment. Verification of subgrade stability shall be done through the use of a cone penetrometer in conjunction with the IDOT Subgrade Stability Manual.

EXPLORATION TRENCH 52" DEPTH

This item shall consist of constructing a trench at the locations shown on the plans or as directed by the Engineer, for the purpose of locating existing farm underdrains or other drainage and utility facilities within the construction limits of the proposed improvement.

The trench shall be not less than 52 inches in depth, measured from the existing ground elevation. The width of the trench shall be sufficient to allow proper investigation of the entire trench.

The Contractor shall familiarize himself with the locations of all underground utilities or facilities and shall save such facilities from damage.

When an existing farm underdrain is encountered, another trench shall be excavated on the opposite side of the proposed improvement to establish the line and grade of the existing farm underdrain. Broken tile shall be repaired immediately and no surface runoff shall be allowed to enter any tile.

After the trench has been inspected by the Engineer, the trench shall be backfilled in accordance with Article 550.07 of the Standard Specifications. Any excess excavated material shall be disposed of in accordance with Article 202.03 of the Standard Specifications, and the area adjacent to the trench shall be shaped and trimmed in accordance with Section 212 of the Standard Specifications.

It is the intent of this provision to limit the use of this item to particular locations where the Engineer knows, or has sufficient evidence and reason to believe, that an underdrain or other drainage and utility facility exists.

Method of Measurement: A nominal amount of Exploration Trench (52" DEPTH) has been shown in the Summary of Quantities to establish a unit price only, and payment shall be based on actual trench length explored, measured in place, without a change in unit price because of adjustment in plan quantities.

Basis of Payment: This work will be paid at the contract unit price per foot for EXPLORATION TRENCH 52" DEPTH and no extra compensation will be allowed for any delays, inconvenience, or damage sustained by the Contractor in performing the work.

TRENCH BACKFILL

This work shall be performed in accordance with Section 208 and Article 550.07 of the "Standard Specifications", except as follows:

1. Method one is the only authorized method.
2. Only CA-7 gradations crushed limestone shall be used as trench backfill.

Basis of Payment: This work shall be paid for at the contract unit price per cubic yard for **TRENCH BACKFILL**, which price shall include all labor, materials, and equipment for constructing the work complete in place.

POROUS GRANULAR EMBANKMENT, SUBGRADE

This work shall consist of placing porous granular embankment, subgrade in areas indicated on the plans or as directed by the Engineer up to the bottom of the proposed subbase.

This work shall be done in accordance with Section 207 of the "Standard Specifications", with the exception that the allowable gradations shall be as follows:

1) Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete

Sieve Size	Percent Passing
*6" (150mm)	90 +/- 10
2" (50mm)	45 +/- 25
#200 (75um)	5 +/- 5

2) Gravel, Crushed Gravel, and Pit Run Gravel

Sieve Size	Percent Passing
*6" (150mm)	90 +/- 10
2" (50mm)	60 +/- 25
#4 (4.75mm)	40 +/- 10
#200 (75um)	5 +/- 5

*For undercut less than 6 inches, sieve size may be 4" (100mm).

Rolling each lift of the porous granular material with a vibratory roller meeting the requirements of Section 1101.01 (g) of the "Standard Specifications" shall be sufficient to obtain the desired keying or interlock and the necessary compaction. The Engineer shall verify that the desired keying has been obtained.

Basis of Payment: This work shall be paid for at the contract unit price per cubic yard for **POROUS GRANULAR EMBANKMENT, SUBGRADE**, which price shall include all labor, material, and equipment necessary to complete the work in place.

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH, SPECIAL

This work shall consist of the installation of a Portland Cement Concrete driveway with a compacted stone subbase at various locations as designated on the plans for this Contract.

This work shall be done in accordance with Section 351 and Section 423 of the "Standard Specifications."

The stone subbase shall be 4 inches of Aggregate Base Course, Type B and shall not be paid for separately but shall be considered incidental to the contract unit price for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH, SPECIAL.

All required excavation and saw cutting shall be included as a part of this item and shall not be paid for separately.

Basis of Payment: This work shall be paid for at the contract unit price per square yard for **PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH, SPECIAL**, which price shall include all labor, materials, equipment, excavation, and saw cutting necessary to complete the work in place.

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH, SPECIAL

This work shall be done in accordance with Section 424 of the "Standard Specifications", except as modified herein.

The portland cement concrete sidewalk, 5 inch, special shall be constructed in accordance with Detail "Sidewalk", contained within the plans for this contract. Sidewalk ramps shall be constructed in accordance with Detail "Sidewalk Handicapped Ramp", contained within the plans for this contract.

The stone subbase shall be 4 inches of Sub-base Granular Material, Type B and shall not be paid for separately but shall be considered incidental to the contract unit price for PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH, SPECIAL.

All required excavation and saw cutting shall be included as a part of this item and shall not be paid for separately.

Basis of Payment: This work will be paid for at the contract unit price per square foot for **PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH, SPECIAL**, which price shall include all required expansions joints, special texturing, and variable height edge treatment at sidewalk ramps.

AGGREGATE SHOULDERS, TYPE B

This work shall consist of furnishing, placing, shaping, and compacting aggregate on a prepared subgrade adjacent to an edge of pavement or stabilized shoulder in the locations as indicated on the plans for this Contract or as designated by the Engineer.

This work shall be done in accordance with Section 481 of the "Standard Specifications" with the exception that the material shall be limited to crushed gravel, crushed stone, or crushed concrete. No other materials shall be accepted. The plasticity index requirements and the requirements for adding water at the central mixing plant shall be waived.

Basis of Payment: This work shall be paid for at the contract unit price per square yard for **AGGREGATE SHOULDERS, TYPE B**, of the thickness specified, which price shall include all labor, materials, and equipment necessary to complete the work in place.

BITUMINOUS SHOULDER, SUPERPAVE

This work shall be done in accordance with Section 406 of the "Standard Specifications" and as detailed herein.

Penalty – Bituminous materials, which exceed the allowable reclaimed asphalt pavement amount, will be considered deficient and the percent of contract unit price paid will be adjusted to 50% for that entire day's production on the project.

This work will be paid for at the contract unit price per square yard, of depth specified, for **BITUMINOUS SHOULDER, SUPERPAVE.**

GRATING FOR CONCRETE FLARED END SECTION 12", 21", 24", AND ELLIPTICAL EQUIVALENT ROUND-SIZE 30"

This work consists of fabricating, transporting and installing metal grates on flared end sections in accordance with Section 542 of the "Standard Specifications" and in accordance with the applicable portions of I.D.O.T. Standard 542311.

This work shall be measured and paid for per each for GRATING FOR CONCRETE FLARED END SECTION 12", GRATING FOR CONCRETE FLARED END SECTION 21", GRATING FOR CONCRETE FLARED END SECTION 24", GRATING FOR CONCRETE FLARED END SECTION ELLIPTICAL EQUIVALENT ROUND-SIZE 30", which price shall include all equipment, labor and material required to complete the work.

DUCTILE IRON WATER MAIN, 6"
DUCTILE IRON WATER MAIN, 8"
DUCTILE IRON WATER MAIN, 16"

This work shall conform to the "Standard Specifications for Water and Sewer Main Construction in Illinois", latest edition, and Section 561 of the Standard Specification, and as modified herein.

All water mains shall be constructed of ductile iron pipe which shall conform to the AWWA/ANSI C151/A21.51, (latest) class to thickness per ANSI, A21.51, Class 52, cement lined with push-on joints (ANSI A21.11).

Fittings shall be ductile iron conforming to ANSI A21.10 and shall be encased in polyethylene pipe wrap. Fittings shall have stainless steel bolts and a minimum of 2 three-quarter inch sacrificial nuts conforming to the Lake County Department of Public Works (LCDPW) specifications.

All water mains shall be constructed to a minimum depth cover of 5.5 feet and a maximum of 8 feet from proposed finished grade to the top of the barrel of the pipe, unless otherwise shown in the plans for this contract.

All bends, tees, elbows, retainer glands, cutting in sleeves, plugs, reducers, anchor fittings, and other appurtenances shall be American Made and shall not be paid for separately but shall be included in the contract unit price per linear foot of respective size water main. Concrete thrust blocks are, required at all bends, toes, crosses, plugs or caps, valves, and hydrants. Vertical bends shall require retainer glands. Thrust blocks shall be concrete, one (12") foot square. The thrust block shall rest upon undisturbed earth on sufficient bearing to resist the forces from the water main under normal operating pressures.

Testing and inspection shall conform to the "Standard Specifications for Water and Sanitary Sewer Main Construction in Illinois" and Lake County Public Works.

Pressure tests shall be witnessed by the Director of LCDPW or his authorized representative.

Hydrostatic tests shall be performed in accordance with the requirements of the standard. The Contractor shall furnish all gauges and measuring devices and make all taps into the pipe. This work shall not be paid for separately but shall be included in the contract unit price per linear foot of respective size water main.

The Contractor shall give the LCDPW at least 48 hours notice prior to the time that construction will begin and official tests will be made. Depending on public hazard or other reasons, the LCDPW may direct when tests of the completed sections of water main shall be made and may order such tests to be made in relatively short sections. There shall be no additional compensation given for any work done or material used in order to complete this test.

Before water mains are placed into service, they shall be thoroughly flushed, pressure-tested and disinfected with chlorine gas, witnessed by a representative of the Lake County Department of

Public Works. The following procedure shall be followed:

1. Pressure Test
Pressure tests shall be performed after initial flushing to remove any air in the water main and brought to one hundred fifty (150) pounds per square inch (psi) and hold at that pressure for two (2) hours, If there is any drop in pressure, the cause shall be determined and any necessary repairs shall be made by the contractor, and the pressure test repeated until a passing test is achieved, as noted in the standard Specifications for Water and sewer Main Construction in Illinois. The pressure gauge shall be an analog types with increments of five (5) psi or less,

2. Flushing
The mains shall be flushed, discharging water through each of the hydrants on the system until the water runs clear.

3. Chlorination
Chlorination of mains shall be performed by an accredited chlorination specialist and at the Contractor's expense,

4. Use of Water
Water shall not be used from the mains until satisfactory results are received by the Lake County Department of Public Works or his representative on bacteriological samples submitted to the laboratory. Bacteriological testing of water mains following disinfection shall be done by the Lake County Public Works' Laboratory.

This work will be paid for at the contract unit price per lineal foot of **DUCTILE IRON WATER MAIN, 6", 8" or 16"**. This price shall include all labor, equipment, pipe material, related appurtenances, fittings, bedding material, thrust blocking, testing and chlorination necessary to install the water main as shown in the plans and as herein specified.

Payment for trench backfill beneath proposed pavement and sidewalks, or within two (2') feet of the limits of pavement will be paid under the item TRENCH BACKFILL. The required pressure taps for water services will be paid for separately as well as the valve box; both in accordance with the Standard Specifications for Water and Sewer Main Construction in Illinois.

WATER VALVES, 8"
VALVE VAULTS, TYPE A, 4'- DIAMETER, TYPE 1 FRAME, CLOSED LID

This item consists of all material, labor and equipment necessary to construct 8" water valves, in 4'-diameter valve vaults. This work shall be in accordance with the latest edition of the "Standard Specifications for Water and Sewer Main Construction in Illinois", and Section 602 of the Standard Specifications, and shall incorporate the following:

The valve vault shall be made of precast concrete with concentric cone, and shall be sixty (60") inches inside diameter. Valve vaults shall have a Neenah type R-1712B frame and lid, East Jordan Iron Works 1051-3HD, or approved equal, with the word "Water" cast into the lid. Cast iron steps shall be installed at sixteen (16") inch centers.

The 8" valves shall be factory assembled valves, and shall consist of a ductile iron body, epoxy coated with stainless steel fasteners bronze mounted, non-rising stem, one hundred and fifty (150) pound working pressure, three hundred (300) pound test, mechanical joint ends, Clow RW, East Jordan Flow Master or Waders Series 2500, or approved equal conforming to AWWA C509.

The work described herein shall be measured and paid for separately at the Contract unit price per each for **WATER VALVES, 8"** and **VALVE VAULTS, TYPE A, 4- DIAMETER, TYPE 1 FRAME, CLOSED LID** which price shall include all costs in full for materials, including the water valve, fittings, trench backfill, earth excavation, frame and lid, labor, equipment and all incidental work necessary to complete the work under each task.

FIRE HYDRANTS TO BE MOVED (SPECIAL)

This work shall be done in accordance with Section 564 of the STANDARD SPECIFICATIONS except as modified herein and as shown on the details on the plans. This item includes the removal of an existing fire hydrant and relocating them to the locations indicated in the contract plans. The existing auxiliary valve will remain and a new valve and valve box installed. This item also includes all necessary new hydrant lead piping; reinstallation of the old fire hydrant, thrust blocking, backfill and any necessary fittings. All work shall be coordinated with the Lake County Department of Public Works and shall be done in accordance with Detail "Fire Hydrants to be Moved (Special)", contained within the plans for this contract.

All new piping shall be cement lined, Class 52 Ductile Iron with fittings in accordance with AWWA C104-80, C110-82, and C151-81.

All new auxiliary valves and boxes shall be the same type and size as those existing and shall meet the requirements of the owning agency.

Disinfecting shall be in accordance with AWWA C651 for Disinfecting Water Mains.

A galvanized steel fence-type post 6-foot long, buried two-feet firmly set in the ground shall be provided adjacent to each fire hydrant. The post shall have a blue reflector attached to the top and shall extend four feet above grade.

This work will be paid for at the contract unit price per each for **FIRE HYDRANTS TO BE MOVED (SPECIAL)**, which price shall be payment in full for all labor, equipment, and materials necessary to complete the work specified herein, including disinfection and testing.

PIPEUNDERDRAINS, 6"
PIPE UNDERDRAINS, 4" (SPECIAL)

This work shall be performed in accordance with Section 601 of the "Standard Specifications".

The pipe underdrain shall be constructed in accordance with Detail "Underdrain", contained within the plans for this contract.

The pipe underdrain shall be perforated, corrugated polyethylene plastic pipe with filter fabric permanently affixed to the pipe.

All pipe underdrain connections to storm sewer structures shall be machine cored and booted in accordance with Detail "Storm Sewer Service Connections", contained within the plans for this contract. This work shall be considered incidental to the contract unit price for **PIPE UNDERDRAIN, 4" (SPECIAL)**.

Basis of Payment: This work shall be paid for at the contract unit price per foot for **PIPE UNDERDRAIN, 4" (SPECIAL)**. This price shall include all labor, materials, and equipment for constructing the work complete in place.

RESTRICTED DEPTH MANHOLES AND RESTRICTED DEPTH CATCH BASINS

This work shall be performed in conformance with Section 602 of the "Standard Specifications" and Standard Drawings 602001 (Catch Basin Type A), or 602401 (Manhole Type A), except that a reinforced concrete slab as per Standard 602601 will be used in lieu of the cone section.

For structures having Type 8 grates, a 24-inch inside diameter by 6-inch (minimum) high riser shall be installed on the flat slab to provide earth cover over the slab for vegetation.

Basis of Payment: This work will be paid for at contract unit price per each for **RESTRICTED DEPTH MANHOLES** or **RESTRICTED DEPTH CATCH BASINS**, of the diameter and with the frame and lid or grate specified, which price includes all labor, material, and equipment necessary to perform the work.

TYPE 1 FRAME, OPEN LID
TYPE 1 FRAME, CLOSED LID
TYPE 8 GRATE
TYPE 11V FRAME AND GRATE
TYPE 24 FRAME AND GRATE

For drainage structures specifying these castings, the Contractor is to use the following specific castings along Fairway Drive, within the corporate limits of the Village of Vernon Hills:

FRAME & GRATE	NEENAH FOUNDRY CASTING, or approved equal
Type 1	R-1772 (embossed with "Storm Sewer")
Type 8	R-4352
Type 11V	R-3281-AL
Type 24	R-3246-A

For drainage structures along U.S. Route 45 and along Prairie Road, Section 604 shall apply.

The Contractor is not entitled to any additional compensation for compliance with this special provision. The cost of the frames, grates and lids shall be included in the contract unit price of the structure on which they are placed.

MANHOLES, TYPE A, 7'-DIAMETER, TYPE 1 FRAME, CLOSED LID

This work shall be in accordance with Section 602 of the "Standard Specifications", equipped with a reinforced concrete slab, per Standard Drawing 602601. For locations in pavement areas, the slab is not to interfere with the pavement or curb structure.

Basis of Payment: This work will be paid for at contract unit price per each for **CATCH BASINS**, of the type and diameter and with the frame and lid or grate specified, which price includes all labor, material, and equipment necessary to perform the work.

COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24 (SPECIAL)

This work shall be done in accordance with Section 606 of the "Standard Specifications" and Standard Drawing 606001 except as modified herein.

Combination Concrete Curb and Gutter, Type M-6.24 (Special) is specified for use on the corner island medians in the northwest and southeast corners of the U.S. Route 45 at Prairie Road/Fairway Drive intersection. The gutter width transitions from 2 feet wide to 4 feet wide. The additional gutter width shall be incidental to COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24 (SPECIAL).

This work shall be paid for at the contract unit price per foot for **COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24 (SPECIAL)**.

CONCRETE MEDIAN SURFACE, 6 INCH (SPECIAL)

This work shall be done in accordance with Section 606 of the "Standard Specifications" and Standard Drawing 606301 except as modified herein.

Concrete Median Surface, 6 inch (Special) is specified for use on the corner island medians in the northwest and southeast corners of the U.S. Route 45 at Prairie Road/Fairway Drive intersection. A keyed longitudinal construction joint should be constructed as part of the concrete median surface to interface with the back of curb identified in the plans. The keyed longitudinal construction joint shall be incidental to CONCRETE MEDIAN SURFACE, 6 INCH (SPECIAL).

This work shall be paid for at the contract unit price per foot for **CONCRETE MEDIAN SURFACE, 6 INCH (SPECIAL).**

VALVE VAULT TO BE REMOVED

This work shall be done in accordance with the applicable portions of Section 605 of the "Standard Specifications" except that it includes removing the auxiliary valves, after the proposed water main is completely installed and in service. The valves shall be delivered to the Lake County Public Works Department facility located at 650 West Winchester Road, Libertyville.

This work shall be paid for at the contract unit price per each for **VALVE VAULTS TO BE REMOVED**, which price shall be payment in full for all labor, equipment, and materials necessary to complete the work specified herein, including backfilling.

STORM SEWERS (SPECIAL)

This work shall consist of the installation of water main quality storm sewer pipe in all locations where a storm sewer crosses a water main or gets closer than 10 feet in separation as indicated in the plans for this Contract or as directed by the Engineer.

This work shall be done in accordance with Section 603 of the "Standard Specifications" and the Illinois Environmental Protection Agency, Division of Public Water Supplies "Technical Policy Statements" concerning Illinois Pollution Control Board Rules and Regulations, Chapter 6, Rule 212, E through F.

The following materials are permitted for **STORM SEWERS, (SPECIAL):**

1) Cement mortar lined ductile cast iron pipe, thickness Class 52 or greater, with push-on joints.
2) Reinforced concrete pipe, steel cylinder type, with rubber and steel joints per ASTM C443.
3) Reinforced concrete pressure pipe with rubber and steel joints per ASTM C443.

Basis of Payment: This work shall be paid for at the contract unit price per foot for **STORM SEWERS, (SPECIAL)** of the diameter specified, which price shall include all labor, materials, and equipment necessary to complete the work in place.

STEEL PLATE BEAM GUARD RAIL REMOVAL, TYPE B

This work consists or removing and properly disposing of steel plate beam guardrail and posts where indicated on the plans to the requirements of Section 632 of the "Standard Specifications".

This work will be measured and paid for at the contract unit price per foot for **STEEL PLATE BEAM GUARD RAIL REMOVAL, TYPE B** which price shall include all equipment, salvage value, labor and material required to complete the work.

METAL POST – TYPE A

This work shall consist of furnishing and installing metal posts utilizing the direct burial method at the locations indicated in the plans for this contract or as directed by the Engineer.

This work shall be done in accordance with Section 729 of the "Standard Specifications" and Standard Drawing 729001 except as modified herein.

The metal posts shall consist of two square galvanized tel-spar posts.

The tel-spar posts shall have the following dimensions:

1. 12' x 2" x 2"
2. 4' x 2 ¼" x 2 ¼".

All bolts, nuts, lock washers, and flat washers shall be 3/8" in diameter and made of stainless steel.

All bolts and nuts shall be coarse thread and the bolts shall be 3" long.

Installation: The 4' long tel-spar post shall be installed 42" in the ground so that 6" shall protrude above the finished grade elevation. The 12' long tel-spar post shall then be installed inside the 4' tel-spar post. The 12' post shall be locked in place using two (2) stainless steel bolts. The sign panel shall be mounted to the 12' post using two (2) stainless steel bolts. The posts shall be installed such that the bottom of the sign shall be 7' above the top of curb elevation. The assembly shall be a minimum of 2' from the back of curb.

Basis of Payment: This work shall be paid for at the contract unit price per foot for **METAL POST – TYPE A**, which price shall include all labor, materials, and equipment necessary to complete the work in place.

TREE, ACER SACCHARUM GREEN MOUNTAIN (GREEN MOUNTAIN SUGAR MAPLE), 2" CALIPER
TREE, FRAXINUS AMERICANA ROYAL PURPLE (ROYAL PURPLE WHITE ASH), 3" CALIPER
TREE, FRAXINUS PENNSYLVANICA PATMORE (PATMORE GREEN ASH), 3" CALIPER
TREE, QUERCUS RUBRA (RED OAK), 2-1/2" CALIPER
TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2" CALIPER

Section 253 of the "Standard Specifications" shall apply, except as modified herein.

This work shall consist of furnishing, transporting, and planting woody plants such as trees, shrubs, vines and seedlings. The work shall include all mulching, bracing, wrapping, watering, weeding, and replacement of plants when required. It shall also include providing 3 cubic feet of compost for each tree. The compost should meet the requirements of Article 1081.05.

Basis of Payment: This work will be paid for at the contract unit price each for several kinds and sizes of **TREES, SHRUBS AND VINES,** and per unit for **SEEDLINGS.**

WATER MAIN REMOVAL

This work consists of complete removal and proper disposal of existing water main where indicated on the plans. The end of the water main to remain in place shall be properly capped in accordance with Lake County Department of Public Works requirements. This item also includes backfilling the trench with trench backfill, unless the trench is going to be reused for constructing the proposed water main. The trench backfill shall meet the requirements of Section 208 and Article 550.07 of the "Standard Specifications", except as follows:

1. Method one is the only authorized method.

2. Only CA-7 gradations crushed limestone shall be used as trench backfill.

Payment for backfilling the trench shall be per the special provisions for Trench Backfill.

Method of Measurement: This work shall be measured and paid for per lineal foot for **WATER MAIN REMOVAL**, of diameter specified, which price shall include all equipment, labor and material, required to complete the work.

TEMPORARY INFORMATION SIGNING

This work shall consist of furnishing, installing, maintaining, relocating for various stages of construction, and eventually removing temporary informational signs. Included in this item may be ground mount signs, skid mount signs, and overlay sign panels which cover portions of existing signs.

Materials shall be in accordance with the following portions of the "Standard Specifications":

	Item	Section/Article
a..	Sign Base (see Notes 1 and 2)	1090
b.	Sign Face (see Note 3)	1091
c.	Sign Legends	1092
d.	Sign Supports	1093
e.	Overlay Panels (see Note 4)	1090.01

Note 1. The Contractor may use 5/8" instead of 3/4" plywood.
Note 2. Type A sheeting can be used on the plywood base.
Note 3. All sign faces shall be Type A except that all orange signs shall meet the requirements of Article 1084.02(b).
Note 4. The overlay panels shall be 0.08" thick..

The sign sizes and legend sizes shall be as shown on District One Standard TC-22, included in the plans. Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Articles 702.05 and 720.04 of the "Standard Specifications". The signs shall be 7 feet above the near edge of pavement and a minimum of 2 feet beyond the edge of paved shoulder. A minimum of two posts shall be used.

The attachment of temporary signs to existing sign structures must be approved by the Engineer. Any damage to the existing signs due to the Contractor's operations shall be repaired, or the signs replaced, as determined by the Engineer, at the Contractor's expense.

All hardware, posts or skids, supports, bases for ground mounted signs, and connections, which are required for mounting these signs will be included as part of this pay item.

This work will be paid for at the contract unit price per square foot for **TEMPORARY INFORMATION SIGNING.**

SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER

This work shall consist of the furnishing, installation, and removal of a drainage structure inlet filter assembly, consisting of a frame and filter bag, to collect sediment in surface stormwater runoff at locations shown on the plans or as directed by the Engineer.

The Contractor shall inspect the work site and review the plans to determine the number and dimensions of the various types of drainage structure frames (circular and rectangular) into which the inlet filters will be installed prior to ordering materials.

The drainage structure inlet filter assembly shall be installed under the grate on the lip of the drainage structure frame with the fabric bag hanging down into the drainage structure.

The drainage structure inlet filter assembly shall remain in place until final removal of the assembly is directed by the Engineer. The drainage structure inlet filter assembly shall remain the property of the Contractor.

Final removal of the assembly shall include the disposal of debris or silt that has accumulated in the filter bag at the time of final removal. Periodic cleaning of the filter is paid for separately.

Materials: The drainage structure inlet filter shall be the "Catch-All Inlet & Pipe Protector", offered by MARATHON MATERIALS (800-983 9493), of Plainfield, Illinois or approved equal. A detail drawing in the plans depicts the drainage structure inlet filter assembly.

The drainage structure inlet filter assembly consists of a steel frame with a replaceable geotextile fabric bag attached with a steel band with locking cap that is suspended from the frame. A clean used bag and a used steel frame in good condition, meeting the approval of the Engineer, may be substituted for new materials.

The drainage structure inlet filter assembly frame shall be rigid steel meeting the requirements of ASTM-A36. The frame shall include an overflow feature that is welded to the frame's ring. The overflow feature shall be designed to allow full flow of water into the structure if the filter bag is filled with sediment. The dimensions of the assembly frame shall allow the drainage structure grate to fit into the inlet filter assembly frame opening. The assembly frame shall rest on the inside lip of the drainage structure frame for the full variety of existing and proposed drainage structure frames that are present on this contract.

The drainage structure inlet filter assembly bag shall be constructed of a polypropylene geotextile fabric with a minimum weight of 4 ounces per square yard, a minimum flow rate of *145* gallons per minute per square foot, and designed for a minimum silt and debris capacity of 2 cubic feet. The filter bag shall be reinforced with an outer layer of polyester mesh fabric with a minimum weight of 4 ounces per square yard. The filter bag shall be suspended from the steel frame with a stainless steel band and locking cap. The inlet filter assembly frame shall not cause the drainage structure grate to extend higher than 1/8 inch above the drainage structure frame.

Basis of Payment: The work will be paid for at the contract unit price per each for **SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER**, which price shall include all costs for labor, materials, equipment, and incidentals necessary to perform the work.

SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING

Description: This work shall consist of cleaning sediment out of a drainage structure inlet filter when directed by the Engineer. This cleaning work is to be periodically performed as directed by the Engineer, for the duration of the use of each drainage structure inlet filter assembly. The Engineer will be the sole judge of the need for cleaning, based on the rate that debris and silt is collected at each inlet filter location.

Cleaning of the inlet filter: This work shall consist of inspecting, cleaning (includes removal and proper disposal of debris and silt that has accumulated in the filter fabric bag), by vactoring, removing and dumping or any other method approved by the Engineer.

Method of Measurement: Cleaning of the drainage structure inlet filter shall be measured for payment each time that the cleaning work is performed at each of the drainage structure inlet filter locations.

Basis of Payment: The work will be paid for at the contract unit price per each for **SEDIMENT CONTROL, DRAINAGE STRUCTURE INLET FILTER CLEANING**, which price shall include all costs for labor, materials, equipment, and incidentals necessary to perform the work.

REMOVE EXISTING WATER VALVE

This work shall consist of the removal and disposal of existing water valves. The valves shall be delivered to the Lake County Department of Public Works facility located at 650 West Winchester Road, Libertyville.

This work shall be paid for at the contract unit price each for **WATER VALVE REMOVAL,** regardless of the size of the valve, which price shall include all labor, equipment, disposal of the valve, and all materials necessary to complete the work as specified herein.

DRAINAGE RESTRICTOR

This work shall be in accordance with Section 602 of the "Standard Specifications". This work shall consist of removing an existing drainage restrictor plate, and fabricating and installing a new drainage restrictor plate. The plate is to have circular holes drilled and milled through it, in locations such that, when installed, the invert(s) of the drilled and milled holes, and the top of the plate, are at the elevation specified in the plans. The Contractor shall be responsible for ensuring that the drainage restrictor plate is fabricated so that the specific elevations are holes and the top of the plate are maintained.

The restrictor plate shall be made of steel.

Basis of Payment: This work will be paid for at contract unit price per each for **DRAINAGE RESTRICTOR,** which price includes all labor, material, and equipment necessary to perform the work.

SANITARY MANHOLE TO BE ADJUSTED

This work shall consist of adjusting sanitary manholes to the new rim elevations required by the proposed improvements. This work shall be done in accordance of Section 602 of the "Standard Specifications". All sanitary manholes are to be equipped with "Cretex" external seals, or approved equal, or internal seals as approved by Lake County Public Works. Installation of new seals or adjustment of existing seals are considered incidental to this item.

Basis of Payment: This work will be paid for at the contract unit price each for **SANITARY MANHOLE TO BE ADJUSTED** which price shall include labor, material and equipment necessary to perform the work.

BOX CULVERT REMOVAL

This work shall conform to the requirements of Section 501 of the "Standard Specifications except as modified herein.

The culverts removed shall be disposed of properly per Section 202 of the "Standard Specifications" except that the disposal shall not be paid for separately but is incidental to this pay item.

The culverts are not to be removed until others means of drainage is provided. Should the Contractor chose to use a means other than constructing the drainage system as shown in the plans, the cost of such means is incidental to the contract.

The void left by the removed culverts shall be filled with Trench Backfill. Payment for filling the voids shall be per the special provisions for Trench Backfill.

This work shall be paid for at the contract unit price per foot for **BOX CULVERT REMOVAL**, which price shall include all labor, materials, and equipment, required to complete the work.

TEMPORARY PAVEMENT

This item consists of all material, labor and equipment necessary to construct 8" thick bituminous base course sections to be used as a temporary pavement, temporary driveways and temporary sidewalks as specified on the Suggested Maintenance of Traffic Plan sheets. The material used shall be Bituminous Base Course, Superpave, Non Class I, 8". This work shall be in accordance with Section 355 of the "Standard Specifications".

Temporary Pavement shall be measured and paid for at the Contract unit price per square yard for **TEMPORARY PAVEMENT** which price shall include all costs in full for materials, labor, equipment and all incidental work necessary to prepare the subgrade and place the bituminous base course material. Required earth excavation shall be paid for separately.

TEMPORARY PAVEMENT REMOVAL

This item consists of all material, labor and equipment necessary to remove 8" thick bituminous base course sections used as temporary pavement, temporary driveways and temporary sidewalks as specified on the Suggested Maintenance of Traffic Plan sheets. This work shall be in accordance with Section 440 of the "Standard Specifications".

Temporary Pavement shall be measured and paid for at the Contract unit price per square yard for **TEMPORARY PAVEMENT REMOVAL** which price shall include all costs in full for materials, labor, equipment and all incidental work.

BITUMINOUS CONCRETE SURFACE COURSE

This work shall be done in accordance with Section 406 of the "Standard Specifications" except as modified herein.

Penalty – Bituminous materials, which exceed the allowable reclaimed asphalt pavement amount, will be considered deficient and the percent of contract unit price paid will be adjusted to 50% for that entire day's production on the project.

This work will be paid for at the contract unit price per ton for **POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX E, N90** or **BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX D, N70** or **BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50.**

BITUMINOUS CONCRETE BINDER COURSE

This work shall be done in accordance with Section 406 of the "Standard Specifications" except as modified herein.

Penalty – Bituminous materials, which exceed the allowable reclaimed asphalt pavement amount, will be considered deficient and the percent of contract unit price paid will be adjusted to 50% for that entire day's production on the project.

This work will be paid for at the contract unit price per ton for **POLYMERIZED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N90** or **BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, IL-19.0, N70** or **BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, IL-19.0, N50.**

MODULAR BLOCK RETAINING WALL

Part 1: General

1.01 Description

A. Work includes furnishing and installing concrete modular block retaining wall units to the lines and grades shown on the construction drawings and as specified herein.
B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades shown on the construction drawings.
C. Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction drawings.

1.02 Reference standards

A. ASTM C-90 Load Bearing Concrete Masonry Units.
B. ASTM C-140 Sampling and Testing Concrete Masonry Units.
C. ASTM D-448 Sizes of Aggregate for Road and Bridge Construction.
D. ASTM D-698 Laboratory Compaction Characteristics using Standard Effort.

1.03 Delivery, storage and handling

A. Contractor shall check the materials upon delivery to assure that proper materials have been received.
B. Contractor shall prevent excessive mud, wet cement, epoxy, and similar materials (which may affix themselves) from coming in contact with the materials.
C. Contractor shall protect the materials from damage. Damaged materials shall not be incorporated into the retaining wall structure.

1.04 Submittals

A. Samples of all product used in the work of this section.
B. Manufacturer's specifications (latest edition) for proposed materials, method of installation and list of materials proposed for use.
C. Design information establishing the stability of the proposed structure(s).

1.05 Quality assurance

A. Owner will be responsible for soil testing and inspection quality control during earthwork operations.

Part 2: Products

2.01 Definitions

A. Modular Concrete Units - a KEYSTONE modular concrete facing unit, machine made from portland cement, water and mineral aggregates.
B. Geogrid products shall be high-density polyethylene or polypropylene expanded sheet or polyester woven fiber materials, specifically fabricated for use as soil reinforcement.
C. Structural Geogrid - a structural geogrid formed by a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.
D. Unit Fill - drainage aggregate which is placed within and immediately behind the modular concrete units.
E. Reinforced Backfill - Compacted soil which is within the reinforced soil volume as shown on the plans.

2.02 Concrete units

A. Modular wall units shall be KEYSTONE Retaining Wall Units as supplied by Service Konstruction Supply, Inc., Roselle, IL (630)351-3838 in accordance with ASTM C-90 and ASTM C-140 or equal.
B. Concrete wall units shall have a minimum 28-day compressive strength of 3,000 psi. Standard weight concrete shall have a maximum moisture absorption of 8%.

C. Dimensional tolerances shall be in accordance with ASTM C-90 except those measured to the split face which varies. Standard and Compac units shall have a minimum of 1 sq. ft. face area each. Mini units shall have a minimum 1/2 sq.ft. face area each.
D. KEYSTONE modular units shall provide an in-place weight of 130 pcf. including the unit fill which is contained within the nominal dimension of the unit.
E. Units shall have angled sides capable of concave and convex alignment curves with a minimum radius of 3.5 feet (Where applicable, for straight walls, use non-angled straight side cap units.)

2.03 Fiberglass connecting pins

A. Connecting pins shall be 1/2" diameter thermoset isopthalic polyester resin-pultruded fiberglass reinforcement rods supplied by the unit manufacturer.
B. Pins shall have a minimum flexural strength of 128,000 psi and short beam shear of 6,400 psi.

2.04 KEYSTONE KapSeal™ construction adhesive

A. Material shall conform to ASTM 2339 and shall be supplied by the KEYSTONE unit supplier.

2.05 Base leveling and pad material

A. Material shall consist of compacted crushed stone or unreinforced concrete as shown on the construction drawing. "Pea gravel" or any other poorly graded stone shall not be permitted.

2.06 Unit fill

A. Fill for units shall be free draining crushed stone or gravel, 1/2" to 3/4", with no more than 5% passing the No. 50 sieve and conforming to ASTM D448. Gradation of the fill shall be approved by the engineer. "Pea gravel" shall not be used.

2.07 Backfill

A. Material may be site excavated soils when approved by the Engineer or otherwise specified in the design drawings. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.
B. Where borrow or imported fill is required, contractor shall submit samples and material specifications to the Engineer for approval.

Part 3: Execution

3.01 Excavation

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.

3.02 Foundation soil preparation

A. Foundation soil shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Engineer.
B. Foundation soil shall be approved by the Engineer to confirm that the actual foundation soil conditions meet or exceed assumed design conditions.
C. Unsuitable soils shall be removed and replaced with acceptable material.
D. Over-excavated areas shall be backfilled with approved compacted backfill material.

3.03 Base leveling pad

A. Leveling pad materials shall be placed upon an approved foundation as shown on the construction drawings to a minimum thickness of 6".
B. Aggregate material shall be compacted to provide a dense, level surface on which to place the first course of modular units. Compaction shall be to 95% of Standard Proctor Density as determined in accordance with ASTM D698. For crushed rock, material shall be densely

compacted as determined by visual observation.

C. Leveling pad shall be prepared and levelled to ensure complete contact of retaining wall unit with base.
D. Contractor may use a reduced depth of gravel or crushed rock in conjunction with a concrete topping. Concrete shall be unreinforced and a minimum of 3" thick.

3.04 Unit installation

A. The first course of concrete modular wall units shall be carefully placed on the base leveling pad. Each unit shall be checked for level and alignment.
B. Ensure that all units are in full contact with base and properly seated.
C. Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from a base line.
D. Install fiberglass connecting pins and fill all voids in and around the modular units with unit fill material. Tamp or rod unit fill to insure that all voids are completely filled.
E. Sweep excess material from top of units and install the next course. Ensure that each course is completely unit filled, backfilled and compacted prior to proceeding to next course.
F. Place each subsequent course ensuring that pins protrude into adjoining courses a minimum of 1". Two pins are required per unit. Pull each unit forward, away from the fill zone, locking against the pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.
G. Follow wall erection and unit fill placement closely with any other backfilling required. Compaction of all soils shall be to 95% of Standard Proctor Density as determined in accordance with ASTM D698. The top 8" of the structure fill shall be a low permeability soil to minimize surface water runoff from directly entering the unit fill or reinforced soil zones.
H. As appropriate where the wall changes elevation, units can be stepped with the grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.

3.05 Cap installation

A. Place KEYSTONE Cap units over projecting pins from units below. Pull forward to setback position. Backfill and compact to finished grade with low permeability soil.
A. As required, provide permanent mechanical connection to wall units with KEYSTONE KapSeal™ construction adhesive. Apply adhesive to top surface of unit below and place cap unit into position.

3.06 Fill placement

A. Backfill material shall be placed in 8" lifts and compacted to 95% of Standard Proctor density as determined in accordance with ASTM D698. The in-place moisture content shall not exceed the optimum moisture content as determined in accordance with ASTM D698 and be no lower than 2% below optimum moisture content.
B. Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid.
C. Only hand-operated compaction equipment shall be allowed within 3' of the back surface of the KEYSTONE units.
D. Backfill shall be placed from the wall back towards the embankment to ensure that the geogrid remains taut.
E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6" is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, [less than 10 mph.] Avoid sudden braking and sharp turning.
G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

Part 4: Payment

4.01 Method of Measurement

A. The concrete modular retaining wall is to be measured for payment in place.

4.02 Basis of Payment

A. This work will be paid for at contract unit price per square foot, for the exposed face of the wall, for **CONCRETE MODULAR RETAINING WALL**, which price includes all labor, material, and equipment necessary to perform the work. This price is to include the backfill and underdrains, as per the approved plans.

MAILBOX REMOVAL AND RELOCATION

This work shall consist of relocating an existing mailbox to a location shown on the plans. The new location of the mailbox should comply with local Post Office requirements and shall also be subject to the approval of the Engineer.

The relocated mailbox shall be installed on a new 4" x 4" square or 4 1/2" diameter round treated wood post. The new post shall be embedded no more than 24" into the ground. The old post shall be removed and disposed of in accordance with the requirements of Article 202.03 of the "Standard Specifications". The resulting hole shall be backfilled with suitable excavated material as approved by the Engineer. The removal and disposal of the old post and backfilling the hole shall be incidental to this item.

Basis of Payment: This work will be paid for at the contract unit price each for **MAILBOX TO BE MOVED** which price includes all labor, material, and equipment necessary to perform the work.

CONNECTION TO EXISTING WATER MAINS (PRESSURE), 8"
CONNECTION TO EXISTING WATER MAINS (PRESSURE), 16"

This work consists of constructing a 48" diameter valve vault and making a connection from a proposed water main to an existing water main with a tapping sleeve without halting service to the existing main. The second dimension refers to the diameter of the new water main being connected to the existing water main. All valve vaults constructed for pressure connections shall have eccentric cones as shown on the detail included in these Special Provisions. The connection shall be constructed in accordance with all applicable portions of Section 561 of the "Standard Specifications" and Section 46 of the "Standard Specifications of Water and Sewer Main Construction in Illinois" with the following materials:

1. The MJ tapping sleeve shall meet or exceed all material specifications as listed below and be suitable for use with standard mechanical joint x mechanical joint resilient wedge gate valves per ANSI/AWWA C509-94. The mechanical joint outlet shall be a one-piece casting having a plain end and a mechanical joint gland TIG and MIG welded a full 360 degrees.
2. The tapping sleeve shall have a Mechanical Joint Outlet Gasket, Branch Sealing Gasket, and complete Circle Gasket attached to the sleeve at the factory.
3. The Branch Sealing Gasket and Complete Circle Gasket shall be contained within stainless steel Retaining Rings.
4. The tapping sleeve shall incorporate Drop-in, Square-Neck, Track-Head bolts with a minimum of two (2) longer starter bolts.
5. A minimum quantity of 16 drop-in bolts and 6 mechanical joint outlet bolts shall be provided.
6. The Branch opening shall be larger in diameter then nominal to allow the use of a full size cutter.
7. All welding shall be passivated so as to return the welded stainless steel to its original corrosion resistant state.
8. There shall be no Paper or Plastic adhesive Labels attached to the tapping sleeve, any information appearing on the sleeve shall be stenciled.
9. The tapping sleeve shall be Factory Hydrostatically Tested on pipe to a minimum of 300 psi to verify proper fit and weld integrity with zero leakage allowed.
10. Sleeves shall be the PowerSeal Model 349OMJ stainless steel tap sleeve with mechanical joint outlet as manufactured by PowerSeal Corporation or an approved equal.

MATERIAL SPECIFICATIONS:

1. The Shell shall be 304 (18-8) stainless steel.
2. Mechanical joint outlet gland and plain end shall be per ANSI / AWWA - Clio I A21.10 as applicable and cast of 304 (18-8) stainless steel.
3. The Armor Plate shall be 304 (18-8) stainless steel, bonded to the Complete Circle Gasket. The gasket shall be full thickness between Armor Plate and pipe.
4. The Lugs shall be 304 (18-8) stainless steel. The Lugs shall be welded (GMAW) to the shell.
5. The Nuts shall be Heavy-Hex, of 304 (18-8) stainless steel and lubricated to prevent galling or seizing.
6. The Bolts shall be 304 (18-8) Stainless Steel, or equal, 5/8" NC thread.
7. The Gaskets shall be of virgin Nitrile (Buna-N, NBR), or equal, compounded for water service.
8. The gate valve used as part of the Pressure Connection shall be a resilient wedge epoxy coated gate Valve either Mueller A2360, Watrous C509 or Watrous 2500. All buried hardware shall be non-Ferrous material.

Basis of Payment: This work shall be paid for at the contract unit price per each for **CONNECTION TO EXISTING WATER MAINS (PRESSURE)**, of specified diameter, which price shall include all labor, materials, and equipment required to complete the work in place, including the tapping sleeve, gate valve, vault, frame and lid, and trench backfill.

HAY OR STRAW BALES (SPECIAL)

This work shall conform to the applicable requirements of Section 280 of the "Standard Specifications" and Standard Drawing 280001. The hay or straw bales shall be used at the direction and discretion of the Engineer. Since bales come in various lengths, the standard unit for the project shall be considered 3.5 feet long, and variations therefrom will be paid for by prorating the contract unit price accordingly. After placement, bales shall be sprayed with bituminous material (prime coat) SS-1 at the rate of 1 gallon per bale, which shall be incidental to this item.

Basis of Payment: This work will be paid for at the contract unit price per each for **HAY OR STRAW BALES (SPECIAL).**

WATER MAIN FITTINGS

This work shall consist of furnishing and installing all tees, wyes, crosses, bends, plugs and reducers necessary to complete the water main installation as shown on the plans. It shall be done in accordance with the applicable portions of Section 46 of the Water and Sewer Specifications except as modified herein.

Fittings shall be ductile iron meeting requirements of ANSI/AWWA C153/A21.10 and ANSI/AWWA C111/A21.11.

Fittings shall be manufactured by United States Pipe and Foundry Co.

All fittings shall be wrapped in a polyethylene film as specified in the special provision for Ductile Iron Water Main. All fittings shall be installed using "cor-ten" bolts. Testing and disinfecting of fittings shall be as specified elsewhere herein. Any fittings not shown on the plans, but which in the opinion of the Engineer, are necessary, will also be measured for payment. The Contractor will be required to maintain a list of all items used and provide an invoiced weight for payment purposes.

Water main fittings will be measured by weight in pounds of actual fittings installed including glands, gaskets and bolts. In lieu of weighing the fittings at the job site, the fittings may be delivered with a letter from the manufacturer certifying the weight of each type and size of fitting, subject to the review of the Engineer. In any case, the weight per fitting allowable for payment shall not exceed the following:

Bends
90° bend, 6" – 85 lbs.
90° bend, 8" – 125 lbs.
90° bend, 16" – 430 lbs.
45° bend, 6" – 75 lbs.
45° bend, 8" – 110 lbs.
45° bend, 16" – 340 lbs.
22.5° bend, 6" – 75 lbs.
22.5° bend, 8" – 110 lbs.

22.5° bend, 16" – 345 lbs.
11.25° bend, 6" – 75 lbs.
11.25° bend, 8" – 110 lbs.
11.25° bend, 16" – 345 lbs.

This work will be paid for at the contract unit price per pound for **WATER MAIN FITTINGS**, which price shall be payment in full for all labor, equipment, and material, including polyethylene wrapping, testing and disinfecting, to complete the work as specified herein.

AGGREGATE FOR TEMPORARY ACCESS

The Contractor shall maintain ingress and egress to all abutting properties during construction operations. Temporary driveways and temporary roads shall be constructed of aggregate to the dimensions determined by the Engineer.

This work shall be done in accordance with Article 301.04 and Article 1004.04 of the "Standard Specifications" with the exception that the materials shall be limited to crushed gravel, crushed stone or crushed concrete. The plasticity index requirements and the requirements for adding water at the central mixing plant will be waived.

After the temporary driveways and temporary roads have served their purpose, the suitable aggregate shall be removed, and, at the direction and approval of the Engineer, utilized for other purposes, such as embankment construction or other driveway aprons.

Basis for Payment: This work will be paid for at the contract unit price per ton for **AGGREGATE FOR TEMPORARY ACCESS**, which price shall be payment in full for furnishing, transporting, placing, maintaining and removing, reusing or disposing of the aggregate, as herein specified and as directed by the Engineer.

Payment for aggregate will be determined by weight tickets and will be paid for its initial use only regardless of the number of times the aggregate is moved.

AGGREGATE SUBGRADE, 12"

The work shall be done in accordance with the applicable portions of Section 207 of the "Standard Specifications." The material shall conform with Article 1004.06 of the "Standard Specifications" except as follows.

1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete will be permitted. Steel slag and other expansive materials will not be permitted.

Sieve Size	Percent Passing
6" (150mm)	97 +/- 3
4" (100mm)	90+/- 10
2" (50mm)	45 +/- 25
#200 (75μm)	5 +/- 5

2. Gravel, Crushed Gravel, and Pit Run Gravel

Sieve Size	Percent Passing
6" (150mm)	97+/- 3
4" (100mm)	90+/- 10
2" (50mm)	55 +/- 25
#4 (4.75mm)	30 +/- 20
#200 (75μm)	5 +/- 5

The aggregate subgrade shall be placed in two lifts consisting of an 8 inch (200mm) lower lift and a **4 inch nominal thickness top lift of capping aggregate** having a gradation of CA 6. Reclaimed asphalt pavement (**RAP**) meeting Article 1004.07 of the "Standard Specifications" and having 100% passing the 3 inch sieve and well graded down through fines **may also be used as capping aggregate.** RAP shall not contain steel slag or other expansive material. Results of the Department's tests on the RAP material will be the determining factor for consideration as expansive. A vibratory roller meeting the requirements of Article 1101.01(g) of the "Standard Specifications" shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

This work shall be paid for at the contract unit price per square yard (square meter) for **AGGREGATE SUBGRADE, 12"**, which price shall include the capping aggregate.

WOOD FENCE TO BE REMOVED AND REPLACED

This work shall consist of removal and off-site disposal of an existing wooden fence, and furnishing and installing a new wooden fence at the proposed right-of-way line or easement line, as shown in the plans or as directed by the Engineer.

The contractor shall dispose of all removed fence materials, including concrete used to anchor fence posts, outside of the right-of-way.

The new fence shall be of similar style and material as the existing fence. The new panels shall be placed to match the spacing and height of the adjacent panels and the slope rails shall be placed to match the elevations of the adjacent slope rails. Installing new line posts shall not be paid for separately but shall be considered incidental to the contract unit price for **WOOD FENCE TO BE REMOVED AND REPLACED.**

Basis of Payment: This work shall be paid for at the contract unit price per foot of new fence installed for **FENCE TO BE REMOVED AND REPLACED**, which price shall include all costs for labor, material, equipment, disposal and incidental necessary to perform the work.

ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED)

This item shall be in accordance with Article 670.02 of the "Standard Specifications" except for the

following. Adequate all-weather parking spaces shall be provided to accommodate a minimum of 8 Vehicles. Electronic security system will not be required. The following shall be furnished and meet the approval of the Engineer.

(a) 3 desks with minimum working surface 42" x 30" (1060 x 760 mm) each, and 3 non-folding chairs with upholstered seat and back.

(b) 1 four-post drafting table with minimum top size of 37 1/2" x 48" (950 x 1220 mm) The top shall be basswood or equivalent and capable of being titled through an angle of 50 degrees. An adjustable height drafting stool with upholstered seat and back shall also be provided.

(c) 1 free standing legal size file cabinet with lock, and 4 drawers with Underwriters' Laboratories insulated file device, with a 350 degree one hour rating.

(d) 4 folding chairs.

(e) 1 equipment cabinet with lock of minimum inside dimension of 44" high x 24"wide x 30" deep (1120 x 600 x 760 mm). The walls shall be of steel with a 3/32" (2.4 mm) minimum thickness with concealed hinges and enclosed lock constructed in such a manner as to prevent entry by force. The cabinet assembly shall be permanently attached to the structural element of the field office in a manner to prevent theft of the entire cabinet.

(f) 1 electric water cooler dispenser with hot/cold and refrigerator

(g) 1 electric desk type tape-printing calculator.

(h) 1 telephone with touch tone; telephone answering machine for exclusive use by the Engineer with time and date feature; and caller ID service and hardware.

(I) 1 pencil sharpener

(j) 1 copy machine capable of reproducing by dry process, prints up to legal size (8 1/2" x 14") (216 x 356 mm) from non-transparent master sheets as black or blue lines on white paper, including maintenance, reproduction paper, activating agent and power source.

Penalty – Failure by the Contractor to meet the specified occupancy date for any field office or field laboratory shall be grounds for assessment of a penalty of $100 per day for each calendar day thereafter that such facility remains incomplete in any respect. Failure by the Contractor to equip, heat, cool, power, supply or clean the field office shall be grounds for assessment of a penalty of $100 per day for each calendar day that the field office remains incomplete after receipt of written notification from the Engineer. Such penalty shall be deducted from monies due or to become due the Contractor under the Contract.

This item will be paid for at the contract unit price per calendar month for **ENGINEER'S FIELD OFFICE, TYPE A (MODIFIED)**.

CDS UNIT

This work shall be in accordance with Section 602 of the "Standard Specifications". The Contractor shall install a precast stormwater filtration treatment unit in accordance with the notes and details shown on the plans and in conformance with these Specifications. The precast stormwater filtration treatment unit shall be a continuous deflective separator (CDS®) unit, model PMSU20_15 as manufactured by CDS Technologies, Inc., 16360 Monterey Road, Suite 250, Morgan Hill, CA 95037. CDS Technologies® may be reached by telephone at (888) 535-7559.

Storm Water Filtration Treatment Unit Design

Hydraulic Treatment Capacity and Separation Screen Design:

The CDS storm water filtration treatment unit shall have a minimum treatment flow capacity as indicated below. This treatment capacity shall be achieved without any flow bypassing the overflow weir of the treatment unit.

PMSU UNIT:	20_15
TREATMENT FLOW CAPACITY, CFS (GPM):	0.7 (314)

Storm Water Filtration Treatment Unit Structure and Design:

The structure shall be designed to withstand H20 traffic and earth loadings to be experienced during the life of the installation.

The storm water filtration treatment units shall be furnished with the following *minimum* sump capacities for the storage of sediments, organic solids, and other settleable trash and debris.

PMSU UNIT:	20_15
MINIMUM SUMP CAPACITY, CU YDS:	1.1

Materials Design for CDS® Unit Manufacture

Concrete:

Storm water filtration treatment units shall be structurally designed and manufactured from materials per ASTM C478 – 88a "Standard Specification for Precast Reinforced Concrete Manhole Sections". Concrete shall adhere to ASTM specifications C33, C39, andC150.

Reinforcement shall consist of wire and/or deformed and plain billet-steel Bars conforming to ASTM Designation A82, A185, A496 A497 or A615.

Fiberglass:

Fiberglass components (inlet riser and oil baffle) for the PMSU model series shall be per national Bureau of Standards PS-15. The components shall be laid up of 3-ounce (oz) chop mat, 24-oz bi-directional woven fabric per MIL-C-19663 and general-purpose polyester resin per MIL-M-43248.

3/16 inch laminated lay up schedule for fiberglass unit shall be achieved by these minimum manufacturing procedures: clean, wax and mask separation unit mold, apply one skin over mold with 3 oz chop mat, cure skin for 1.5 hours, apply second and third layers composed of 3 oz chop mat plus 24 oz woven fabric each, cure 24 hours before de-molding.

Hardware:

The separation screen shall be fabricated from stainless steel conforming to ASTM Designation A316L. Support structure shall be fabricated from stainless steel conforming to ASTM Designation. Fasteners used to install the screen shall be A316 stainless steel.

The access cover for the unit shall be designed to withstand 150 pounds per square foot pedestrian loading, or designed for direct traffic loading if so noted on the Drawings, and shall provide an access hatch of the dimensions shown on the Drawings. The cover may be fabricated from either aluminum or steel depending on application.

The access cover should be fabricated of cast iron and all materials shall conform to ASTM Designation 48-30. Nuts, bolts & washers shall be galvanized in conformance with ASTM Designation A153.

Installation: The CDS unit is to be installed per manufacturer's recommendations.

Basis of Payment: This work shall be paid for at the contract unit price per each for **CDS Unit**, which price shall include all materials, labor and equipment necessary to install the complete unit.

WATER WELL TO BE CAPPED AND ABANDONED

This work shall consist of capping and abandoning an existing residential water well per the Lake County Health Department specifications. The well shall be sealed by a licensed water well driller pursuant to the Water Well and Pump Installation Contractor's License Act, and the Contractor shall be responsible for obtaining any necessary permits from the Lake County Health Department and submitting a Well Sealing Form to the lake County Health Department.

The Lake County Health Department contact information is as follows:

Lake County Health Department
118 South main Street
Wauconda, Illinois 60084

Mr. Michael DeSchmidt
Acting Supervisor
(847) 526-1125 : Phone
(847) 526-7086 : Fax

Basis of Payment: This work shall be paid for at the contract unit price each for **WATER WELL TO BE CAPPED AND ABANDONED**, which price shall include all labor, materials, equipment, excavation and C.L.S.M. material, and including any permits and or submittals required to complete the work.

PIPE CULVERT REMOVAL, 12"
PIPE CULVERT REMOVAL, 24"

This work shall conform to the requirements of Section 501 of the "Standard Specifications except as modified herein.

The culverts removed shall be disposed of properly per Section 202 of the "Standard Specifications" except that the disposal shall not be paid for separately but is incidental to this pay item.

The culverts are not to be removed until others means of drainage is provided. Should the Contractor chose to use a means other than constructing the drainage system as shown in the plans, the cost of such means is incidental to the contract.

The void left by the removed culverts shall be filled with Trench Backfill. Payment for filling the voids shall be per the special provisions for Trench Backfill.

This work shall be paid for at the contract unit price per foot for **PIPE CULVERT REMOVAL, 12" or PIPE CULVERT REMOVAL, 24"**, which price shall include all labor, materials, and equipment, required to complete the work.

STONE PILLARS TO BE RELOCATED

This work shall consist of relocating four existing ornamental stone pillars at the locations indicated on the plans. The contractor shall coordinate with the Engineer and the property owner as to the final placement of stone pillars adjacent to the relocated access drive (Station 105+80) for 23958 North Prairie Road.

The contractor shall excavate around the existing pillars to expose the existing footing of the pillars. The Engineer shall note the depth of the top of the footing to the existing grade. The pillars will be removed intact and transported to their final placement area. The resulting hole shall be backfilled with suitable excavated material as approved by the Engineer. Backfilling the voids shall be incidental to this item. At the final placement locations, the holes should be excavated to a depth that shall accommodate the existing footing with a maximum depth of 3 feet from the top of the footing to the proposed finish grade. Excavation for the holes and backfilling the voids shall be incidental to this item.

Basis of Payment: This work will be paid for at the contract unit price each for **STONE PILLARS TO BE RELOCATED** which price includes all labor, material, and equipment necessary to perform the work.

SUBMERGED PIPE FOUNDATION, 12"

This work shall consist of the excavation, framing, application of a protective coat, and construction of concrete foundations for submerged pipes in the locations designated in the plans for this

Contract or as directed by the Engineer.

This work shall be done in accordance with all applicable portions of Section 503 of the "Standard Specifications" except as modified by this Special Provision and the Detail "Foundation for Headwalls, Submerged Pipe and Flared End Section", contained in the plans for this Contract.

All required excavation, framing, and protective coat applications shall be considered incidental the Contract unit price for this item.

Basis of Payment: This work shall be paid for at the contract unit price per each for **SUBMERGED PIPE FOUNDATION, 12"**, which price shall include all labor, materials, and equipment necessary to complete the work in place.

DEWATERING (SPECIAL)

This work shall consist of the pumping of water from the existing detention pond into other locations as directed by the Engineer, in order to lower the existing water level to construct the submerged pipe foundation.

Dewatering shall be done via a pump discharge. The minimum size of pump that will be allowed shall have the capacity to maintain a discharge rate of 600 gallons per minute with a vertical head of 17 feet.

Method of Measurement: **DEWATERING (SPECIAL)** shall be measured per hour or fraction thereof. Any remaining quantity for this pay item shall revert back to the Owner if not used by the Contractor. Dewatering times shall be approved by the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price per hour of pumping or fraction thereof for **DEWATERING (SPECIAL)**, which price shall include all labor, materials, and equipment necessary for completing the work in place.

ABANDON WATER MAIN, 16"

This work shall consist of excavation required to expose the existing 16" diameter water main, cutting the water main, and taking the existing 16" diameter water main out of service by filling it with C.L.S.M. This work shall not begin until the proposed water main is in place and operating. The C.L.S.M. shall conform to the Special Provision set forth in the Illinois Department of Transportation manual for Supplemental Specifications and Recurring Special Provisions adopted January 1, 2004.

The ends of the water main being filled and shall be plugged with brick and mortar in a manner satisfactory to the Engineer. The water main shall be filled in 300' increments. The area of excavation required to expose the water main shall be filled with trench backfill meeting the requirements of Section 208 and Article 550.07 of the "Standard Specifications", except as follows:

3. Method one is the only authorized method.

4. Only CA-7 gradations crushed limestone shall be used as trench backfill.

Payment for filling the area of excavation required to expose the water main shall be per the special provisions for Trench Backfill.

Method of Measurement: **ABANDON WATER MAIN, 16"** shall be measured for payment based on the calculated volume of the pipe to be filled between each 300' segment. The limits of fill and the diameter of the pipe are to be confirmed with the Engineer prior to the commencement of the work in order to be eligible for payment.

Basis of Payment: This work shall be paid for at the contract unit price per foot for **ABANDON WATER MAIN, 16"**, which price shall include all labor, materials, and equipment, including excavation, end plugs, C.L.S.M. material, required to complete the work.

SUPERPAVE BITUMINOUS CONCRETE MIXTURES NON QC/QA

Effective: January 1, 2000
Revised: January 1, 2003

Description: This work shall consist of designing, producing and constructing Superpave bituminous concrete mixtures using Illinois Modified Strategic Highway Research Program (SHRP) Superpave criteria. This work shall be according to Sections 406 and 407 of the Standard Specifications except as follows.

Materials:

(a) Fine Aggregate Blend Requirement. The Contractor may be required to provide FA 20 manufactured sand to meet the design requirements. For mixtures with Ndesign $\geq$ 90, at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation.

(b) Reclaimed Asphalt Pavement (RAP). If the Contractor is allowed to use more than 15 percent RAP, as specified in the plans, a softer performance-graded binder may be required as determined by the Engineer.

RAP shall meet the requirements of the special provision, "RAP for Use in Bituminous Concrete Mixtures".

RAP will not be permitted in mixtures containing polymer modifiers.

RAP containing steel slag will be permitted for use in top-lift surface mixtures only.

(c) Bituminous Material. The asphalt cement (AC) shall be performance-graded (PG) or polymer modified performance-graded (SBS-PG or SBR-PG) meeting the requirements of Article 1009.05 of the Standard Specifications for the grade specified on the plans.

The following additional guidelines shall be used if a polymer modified asphalt is specified:

(1) The polymer modified asphalt cement shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. Polymer modified asphalt cement shall be placed in an empty tank and shall not be blended with other asphalt cements.

(2) The mixture shall be designed using a mixing temperature of 163 ± 3 °C (325 ± 5 °F) and a gyratory compaction temperature of 152 ± 3 °C (305 ± 5 °F).

(3) Pneumatic-tired rollers will not be allowed unless otherwise specified by the Engineer. A vibratory roller meeting the requirements of Article 406.16 of the Standard Specifications shall be required in the absence of the pneumatic-tired roller.

(4) A manufacturer's representative from the polymer asphalt cement producer shall be present during each polymer mixture start-up and shall be available at all times during production and lay-down of the mix.

Laboratory Equipment:

(a) Superpave Gyratory Compactor. The superpave gyratory compactor (SGC) shall be used for all testing.

(b) Ignition Oven. The ignition oven shall be used to determine the AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

Mixture Design: The Contractor shall submit mix designs, for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed all of the Hot Mix Asphalt Courses, Level I, II, and III under the Superpave system. If Level I and/or Level III were taken under the Marshall system, the additional courses "Superpave Field Control" and/or "Superpave Mix Design Upgrade" would be required. Articles 406.10 and 406.13 of the Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

AASHTO MP 2	Standard Specification for Superpave Volumetric Mix Design
AASHTO PP 2	Standard Practice for Short and Long Term Aging of Hot Mix Asphalt (HMA)
AASHTO PP 19	Standard Practice for Volumetric Analysis of Compacted Hot Mix Asphalt (HMA)
AASHTO PP 28	Standard Practice for Designing Superpave HMA

AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor

AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Mixture Composition. The ingredients of the bituminous mixture shall be combined in such proportions as to produce a mixture conforming to the composition limits by weight. The gradation mixture specified on the plans shall produce a mixture falling within the limits specified in Table 1.

(b)

TABLE 1. MIXTURE COMPOSITION (% PASSING)[1/]

Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm[4/]		IL-9.5 mm[4/]	
	min	max	min	max	min	max	min	max
37.5 mm (1 1/2 in.)		100						
25 mm (1 in.)	90	100		100				
19 mm (3/4 in.)		90	82	100		100		
12.5 mm (1/2 in.)	45	75	50	85	90	100		100
9.5 mm (3/8 in.)						90	90	100
4.75 mm (#4)	24	42[2/]	24	50[2/]	24	65	24	65
2.36 mm (#8)	16	31	16	36	16	48[3/]	16	48[3/]
1.18 mm (#16)	10	22	10	25	10	32	10	32
600 µm (#30)								
300 µm (#50)	4	12	4	12	4	15	4	15
150 µm (#100)	3	9	3	9	3	10	3	10
75 µm (#200)	3	6	3	6	4	6	4	6

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 40 percent passing the 4.75 mm (#4) sieve for binder courses with Ndesign ≥ 90.

3/ The mixture composition shall not exceed 40 percent passing the 2.36 mm (#8) sieve for surface courses with Ndesign ≥ 90.

4/ The mixture composition for surface courses shall be according to IL-12.5 mm or IL-9.5 mm, unless otherwise specified by the Engineer.

One of the above gradations shall be used for leveling binder as specified in the plans and according to Article 406.04 of the Standard Specifications.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Dust/AC Ratio for Superpave. The ratio of material passing the 75 μm (#200) sieve to total asphalt cement shall not exceed 1.0 for mixture design (based on total weight of mixture).

(c) Volumetric Requirements. The target value for the air voids of the hot mix asphalt (HMA) shall be 4.0 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the requirements listed in Table 2.

TABLE 2. VOLUMETRIC REQUIREMENTS

	Voids in the Mineral Aggregate (VMA), % minimum				Voids Filled with Asphalt (VFA), %
Ndesign	IL-25.0	IL-19.0	IL-12.5	IL-9.5	
50	12.0	13.0	14.0	15	65 - 78
70					65 - 75
90					
105					

(d) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified T 283 using 4 in. Marshall bricks. To be considered acceptable by the Department as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSRs less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Department. The method of application shall be according to Article 406.12 of the Standard Specifications.

Personnel: The Level II Technician shall have successfully completed the Department's Hot Mix Asphalt Courses, Level I and II under the Superpave system. If Level I was taken under the Marshall system the additional course "Superpave Field Control" would be required.

Required Plant Tests: Testing shall be conducted to control the production of the bituminous mixture at the frequency required by the current version of the "Project Procedure Guide".

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.2 and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resuming production.

During production, mixtures containing an anti-stripping additive will be tested by the Department for stripping according to Illinois Modified T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

Construction Requirements

Lift Thickness:

(a) Binder and Surface Courses. The minimum compacted lift thickness for constructing bituminous concrete binder and surface courses shall be according to Table 4:

TABLE 4 – MINIMUM COMPACTED LIFT THICKNESS	
Mixture	Thickness, mm (in.)
IL-9.5	32 (1 1/4)
IL-12.5	38 (1 1/2)
IL-19.0	57 (2 1/4)
IL-25.0	76 (3)

(b) Leveling Binder. Mixtures used for leveling binder shall be as follows:

TABLE 5 – LEVELING BINDER	
Nominal, Compacted, Leveling Binder Thickness, mm (in.)	Mixture
≤ 32 (1 1/4)	IL-9.5
32 (1 ¼) to 50 (2)	IL 9.5 or IL-12.5

Density requirements shall apply for leveling binder when the nominal, compacted thickness is 32 mm (1 1/4 in.) or greater for IL-9.5 mixtures and 38 mm (1 1/2 in.) or greater for IL-12.5 mixtures.

(c) Full-Depth Pavement. The compacted thickness of the initial lift of binder course shall be 100 mm (4 in.). The compacted thickness of succeeding lifts shall meet the minimums specified in Table 4 but not exceed 100 mm (4 in.).

If a vibratory roller is used for breakdown, the compacted thickness of the binder lifts, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

(d) Bituminous Patching. The minimum compacted lift thickness for constructing bituminous patches shall be according to Table 4.

Density Control Limits:

Density shall be within the following control limits:

TABLE 6. DENSITY CONTROL LIMITS	
Parameter	**Individual Test**
Ndesign ≥ 90	92.0 - 96.0%
Ndesign < 90	93 - 97%

Basis of Payment: On resurfacing projects, this work will be paid for at the contract unit price per metric ton (ton) for **BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE**, of the friction aggregate mixture and Ndesign specified, **LEVELING BINDER (HAND METHOD), SUPERPAVE**, of the Ndesign specified, **LEVELING BINDER (MACHINE METHOD), SUPERPAVE**, of the Ndesign specified, and **BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE**, of the mixture composition and Ndesign specified.

On resurfacing projects in which polymer modifiers are required, this work will be paid for at the contract unit price per metric ton (ton) for **POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE**, of the friction aggregate mixture and Ndesign specified, **POLYMERIZED LEVELING BINDER (HAND METHOD), SUPERPAVE**, of the Ndesign specified, **POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE**, of the Ndesign specified, and **POLYMERIZED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE**, of the mixture composition and Ndesign specified.

On full-depth pavement projects, this work will be paid for at the contract unit price per square meter (square yard) for **BITUMINOUS CONCRETE PAVEMENT, (FULL-DEPTH), SUPERPAVE**, of the thickness specified.

State of Illinois
Department of Transportation

SPECIAL PROVISION FOR EMBANKMENT

This Special Provision amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted January 1, 2002 and shall be constructed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

Embankment shall conform to the applicable requirements of Section 205 (Embankment) of the Standard Specifications except that excavated materials that are suitable may be used in the construction of the embankment or disposed of at the Contractor's discretion. Embankment material shall either be from suitable excavated material from within the right-of-way or furnished by the Contractor from locations off the right-of-way. Suitable excavation material from structures and drainage items may also be placed in embankments.

For locations off the right-of-way, embankment material shall conform to the applicable requirements of Article 106.03 of the Standard Specifications except the contractor shall identify embankment sources to the Engineer a minimum of three weeks prior to use in order that laboratory tests for approval and compaction can be performed. Embankment material placement can not begin until the tests are completed and approval given.

Earth Excavation quantities shown in the plans may contain topsoil and unsuitable material that will not meet the criteria for approved embankment material, based on actual soil conditions. It is the Contractors responsibility to determine the quantity of off-site borrow that will be needed to complete the embankment as shown on the plans. The Contractor should review the Soil Report available in the District One Bureau of Materials.

All material which is proposed for use in embankment construction must be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements:

1. The laboratory Standard Dry Density shall be a minimum of 145 kg/m3 (90 lb/ft3) when determined in accordance with AASHTO designation T-99.

2. Soils with an organic content less than 10 percent determined in accordance with AASHTO designation T-194 (Wet Combustion).

3. Soils which demonstrate the following properties should be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 900mm (3 feet) of soil not considered detrimental in terms of erosion potential or excess volume change.
    a. A grain size distribution with less than 35 percent passing the number 75µm (#200) sieve.

b. A plasticity index (PI) of less than 11.
c. A liquid limit (LL) in excess of 45.

In addtion to Article 202.03, broken concrete, reclaimed asphalt, or uncontaminated dirt and sand generated from construction or demolition activities shall be placed in 150 mm (6 inch) lifts and disked with the underlying lift until a uniform homogenous material is formed. This process also applies to the overlying lifts. The disk must have a minimum of 600 mm (24 inch) diameter blade.

Reclaimed asphalt shall not be used within the ground water table or as a fill if ground water is present.

Soils classification for moisture content control will be determined by the Soils Inspector using visual field examination techniques and the IDH Textural Classification Chart. The Contractor will be permitted the use of an approved additive to effect a quicker drying time. The above work will not be paid for directly, but shall be considered as included in the cost of the various items for earthwork.

When tested for density in place each lift shall have a maximum moisture content as follows:

a. A maximum of 110 percent of the optimum moisture for all forms of clay soil.
b. A maximum of 105 percent of the optimum moisture for all forms of clay loam soil.

It is the responsibility of the contractor to ensure all lifts meet all the criteria of this provision. No additional placement shall be allowed until these requirements are satisfied. All lifts which do not meet the criteria must be removed and replaced until approval is given.

The above requirements may be modified by the District Geotechnical Engineer to suit the existing field conditions.

CASING PIPE

This work shall consist of fabricating and installing a steel pipe. This pipe will carry a future water main extension to be performed by the Lake County Public Works Department. The steel casing pipe shall be 16-inches and a 24-inches in diameter. This work shall be in accordance with the plans and section 505 of the Standard Specifications. The steel pipe shall be installed by open cut method. The ends of the pipe shall be blocked by pressure treated plywood held in place with sandbags.

Casing pipe shall be new steel pipe conforming to the latest revised specification requirements of ASTM A134 with field-welded butt joints and shall comply with the American Welding Society recommended standards, a minimum yield strength of 35,000 psi.

CASING PIPE will be measured in feet. This work will be paid for at the contract unit price per foot for CASING PIPE, which price shall include the fabrication, installation, maintenance and marking of the steel pipe.

CASING SPACERS

This work consists of furnishing labor, equipment, and materials to install pipe supports for a carrier pipe within a casing pipe.

The spacers for the carrier pipe shall be Model CCS stainless steel centering spacers as manufactured by the Cascade Waterworks Mfg. Co., 1213 Badger Street, Yorkville, Illinois 60560, or their approved equal. The carrier pipe supports shall be installed per the manufacture's recommendations at an approximate spacing of ten feet on centers.

This work shall be considered incidental to the fabrication, installation, maintenance, and construction of CASING PIPE.

TREE PLANTING PLAN

The following pay items have been included in the contract to replace trees that are removed as a result of the construction of the improvements set forth in these contract documents:

TREE, ACER SACCHARUM GREEN MOUNTAIN (GREEN MOUNTAIN SUGAR MAPLE), 2" CALIPER

TREE, FRAXINUS AMERICANA ROYAL PURPLE (ROYAL PURPLE WHITE ASH), 3" CALIPER

TREE, FRAXINUS PENNSYLVANICA PATMORE (PATMORE GREENASH), 3" CALIPER

TREE, QUERCUS RUBRA (RED OAK), 2-1/2" CALIPER

TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2" CALIPER

Included in the unit cost of the above pay items, the Contractor will be required to prepare a planting plan identifying the placement of the proposed trees. This plan shall meet the requirements of the Illinois Department of Transportation and the Lake County Division of Transportation for placement of trees within the right-of-way. The plan shall be prepared by a professional certified Landscape Architect for submittal to the Resident Engineer, Illinois Department of Transportation, Lake County Division of Transportation and the Village of Vernon Hills. The Contractor will be required to obtain approval from all referenced parties prior to beginning the work. Any permits required will be the responsibility of the Contractor.

This work shall not be paid for separately, but shall be considered included in the cost of the above referenced pay items included in the contract.

TRAFFIC CONTROL AND PROTECTION SPECIFICATIONS

Traffic Control Plan (L.C.-T-701#01), Effective 11/01/02

Traffic Control shall be in accordance with the applicable sections of the "Standard Specifications", the "Supplemental Specifications", the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, Millennium Edition" "Quality Standard for Work Zone Traffic Control Devices", any special details and Highway Standards contained in the plans and the special provisions contained herein.

Special attention is called to Articles 105.05, and 107.09, and to Sections 701 and 702 of the "Standard Specifications", and to the following Highway Standards, Details, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the Engineer at least 72 hours in advance of beginning work.

STANDARDS

701001, 701006-01, 701201-01, 701301-01, 701306, 701311-02, 701326-01, 701336-03, 702001-03, 704001-01

DETAILS

TC-16 Temporary Pavement Marking Letters and Symbols

RECURRING SPECIAL PROVISIONS

Check Sheet #28 – Give em a Brake Sign
Check Sheet #29 – Portable Changeable Message Signs
Check Sheet #30 – Direction Indicator Barricades
LRS3 – Construction Zone Traffic Control

INTERIM SPECIAL PROVISIONS
ISP 02-50 Placement of Arrow Boards

DETOURS

Detours and Road Closures on County Maintained Roads within Lake County, Illinois shall be in accordance with the applicable sections of the "Standard Specifications", the "Supplemental Specifications", the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", the Lake County Division of Transportation's Detour Procedures and Guidelines, any special details and Highway Standards contained in the Detour Plan and the Special Provisions contained herein. The LCDOT's Detour Procedures and Guidelines is available from the LCDOT, Traffic Engineering Section upon request.

Traffic Control and Protection (L.C.-T-701#02), Effective 11/01/02

The Traffic Control and Protection shall meet the requirements of Article 701 "Work Zone Traffic Control" and Article 702 "Work Zone Traffic Control Devices" of the "Standard Specifications".

Article 701.01 "Description" shall be replaced with the following:

701.01 Description. This item of work shall include furnishing, installing, maintaining, replacing, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic during the construction or maintenance of this improvement.

Traffic Control and Protection shall be provided as called for in the plans, these special provisions, applicable Highway Standards, applicable sections of the "Standard Specifications", or as directed by the Engineer.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadway through the construction zone. The Contractor shall arrange his/her operations to keep the closing of any lane of the roadway to a minimum.

Traffic control devices include signs and their supports, signals, pavement markings, barricades and their approved weights, channeling devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

Article 701.04 "General", section (b) "Contractor's Operations and Equipment", paragraph (4) shall be replaced with the following:

(4) The Contractor is required to conduct routine inspections of the work site at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the MUTCD, the Traffic Control Standards or will no longer present a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

The Contractor shall be responsible for the proper location, installation and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations, in order to keep lane

assignments consistent with barricade placement at all times. The Contractor shall immediately remove, cover or turn from the view of motorists all traffic control devices which are inconsistent with the detour, lane assignment patterns or conflicting conditions created during the transition from one construction stage to another. When the Contractor elects to cover conflicting or inappropriate signing, the materials used shall totally block out the reflectivity of the sign and shall cover the entire sign. The method used for covering the signing shall meet with the approval of the Engineer.

The Contractor shall coordinate all traffic control work on this project with any adjoining or overlapping projects. The coordination will include any barricade placements necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor shall remove all traffic control devices that he/she furnished, installed and maintained under the contract. Such devices shall remain the property of the Contractor. All traffic control devices shall remain in place until the Engineer specifically authorizes their relocation or removal.

The Contractor shall ensure that all the traffic control devices he/she installs are operational, functional and effective 24 hours a day, 7 days a week, including holidays.

Article 701.04 "General" shall be modified by adding the following sections:

(g) Public Safety and Convenience:

The Contractor shall provide a telephone number for a responsible individual who can be contacted 24 hours a day, 7 days a week, to receive notification of any deficiencies in traffic control and protection. The Contractor shall dispatch men, materials, and equipment to correct any such deficiencies. The Contractor shall respond to any call from LCDOT concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two (2) hours from the time of notification.

Personal vehicles shall not park within the right-of-way except in specific areas designated by the Engineer. All roads shall remain open to traffic. The Contractor may close one lane on two lane roads, because of construction, between the hours of 9:00 AM and 3:00 PM only. The Contractor shall maintain one-way traffic during these restricted hours with the use of signs and flagmen as shown on the Traffic Control Standards. Two lanes of traffic will be maintained between the hours of 3:00 PM and 9:00 AM and when no construction activities are being carried out. The restricted lane closure time provision may be waived at the Resident Engineer's discretion. The Contractor shall maintain at least one lane in each direction on roads with four or more lanes. The Contractor shall also

maintain entrances and side roads along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered incidental to the contract, and no additional compensation will be allowed.

On two lane roads, the Contractor will plan his/her work so that there will be no open holes in the pavement and so that all barricades will be removed from the pavement during non-work hours.

On highways with four or more lanes, the Contractor will plan his/her work so that there shall be no open holes in the pavement being used by the traveling public. Lane closures, if allowed, will be in accordance with the applicable standards, staging details shown in the plans and any other applicable contract documents.

The Contractor shall remove all equipment from the shoulders and medians after work hours.

The Contractor shall not institute any road closures or restrictions except those covered by the plans and specifications of this contract without written approval from the Engineer.

(h) Traffic Control Deficiency Charge:

The primary concern of LCDOT is to maintain a safe travel way for the public and a safe environment for the worker in the construction zone. The Contractor is expected to comply with the "Standard Specifications", contract plans, these special provisions, and directions from the Engineer concerning traffic control and protection. The Contractor shall provide a telephone number for a responsible individual who can be contacted 24 hours a day, 7 days a week, to receive notification of any deficiencies in the traffic control and protection.

When the Engineer is notified or determines a traffic control deficiency exist, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be ½ (one half) hour to 8 (eight) hours based upon the urgency of the situation and the nature of the deficiency. The Engineer will be the sole judge.

The deficiency may be any lack of repair, maintenance of, or non-compliance with the traffic control plan.

If the Contractor fails to correct the deficiency within the specified time, a

traffic control deficiency shall be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with the notification and end with the Engineer's acceptance of the correction. The traffic control deficiency charge shall be for the full amount per day for each day the deficiency existed. The daily monetary deduction per deficiency shall be either $1,000.00 or 0.05 of one percent of the awarded contract value, whichever is greater.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof shall be deducted from the cost of the contract. The charge shall be separate and in addition to the traffic control deficiency deduction.

The Contractor shall not be relieved of any contractual responsibilities by LCDOT's action.

Article 701.05 "Specific Procedures", section (c) "Surface Course and Pavement" paragraph (1) will be replaced by the following:

(1) Prime Coat. "Fresh Oil" signs (W21-1) shall be used when the prime coat is applied to pavement that is open to traffic. The signs are to remain in place until tracking of the prime ceases. These signs shall be erected a minimum of 500 feet (150 m) preceding the start of the prime and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet (60 m) from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 (h) " Deficiency Charge" (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency charge. All signs shall have an amber flashing light attached.

Article 701.05 "Specific Procedures", section (c) "Surface Course and Pavement" paragraph (2) will be replaced by the following:

(2) Cold Milling. "Rough Grooved Surface" signs (W8-I107) shall be used when the road has been cold milled and is open to traffic. The signs shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 feet (150 m) preceding the start of the milled pavement and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet (60 m) from the mainline pavement. All signs shall have an amber flashing light attached.

Article 701.05 "Specific Procedures", section (c) "Surface Course and Pavement" shall be modified by adding the following paragraph:

(7) Area Reflective Crack Control Treatment Fabric. "Slippery When Wet" signs

(W8-5) shall be used when crack control fabric is applied to pavement that is open to traffic. These signs shall remain in place until the binder course is laid. The signs shall be erected a minimum of 500 feet (150 m) preceding the start of the crack control treatment and on all side roads within the posted area. The signs on the side roads shall be posted a minimum of 200 feet (60 m) from the mainline pavement. These signs are excluded from the time requirements of Article 701.04 (h) " Deficiency Charge" (above). Non-compliance with the provisions of this section, by the Contractor, shall result in an immediate traffic control deficiency charge. All signs shall have an amber flashing light attached.

Article 701.06 "Highway Standards Application", section (b) "Standard 701316 and 701321" paragraph (2) g., shall be replaced with the following:

g. Microwave Vehicle Sensors. Microwave Vehicle Sensors shall be installed as directed by the Engineer. The installation of the microwave vehicle sensors shall meet the applicable requirements of Sections 850 and 890 of the "Standard Specifications". LCDOT shall approve the proposed microwave vehicle sensor before the Contractor may furnish or install it. The Contractor shall install, wire and adjust the alignment of the sensor in accordance to the manufacturer's recommendations and requirements. The Engineer shall approve the installation.

The microwave vehicle sensor shall meet the following requirements:

- Detection Range: Adjustable to 60 feet (18 m)
- Detection Angle: Adjustable, horizontal and vertical
- Detection Pattern: 16 degree beam width minimum. [at 50 feet (15 m) the pattern shall be approximately 15.5 feet (4.7 m) wide]
- Mounting: Heavy-duty bracket, predrilled and slotted for pole mounting

Article 701.06 "Highway Standards Application", section (g) "Standard 701521 and 701416" The second sentence in the third paragraph shall be revised to read:

When Standard 701416 is specified, vertical panels may be attached to the concrete barriers where available space prohibits the use of Type II barricades.

Article 701.06 "Highway Standards Application", section (k) "Urban Traffic Control, Standards 701501, 701606, 701601, 701701, 701801" paragraph (1) General", shall be modified by adding the following paragraphs:

Whenever a lane is closed to traffic using Standard 701601, 701606, or 701701, the pavement width transition sign (W4-2R or W4-2L) shall be used

in lieu of the "Workers" sign (W21-1 or W21-1a)

Whenever any vehicle, equipment, workers or their activities infringe on the shoulder or within 15 feet (4.5 m) of the traveled way, and the traveled way remains unobstructed, then the applicable Traffic Control Standard shall be 701006, 701011, 701101, or 701701. The "Shoulder Work Ahead" sign (W21-5(0)-48) shall be used in lieu of the "Workers" sign (W21-1 or W-21-1a).

All diamond shaped warning signs shall have a minimum dimension of 48 inches x 48 inches (1.2 m x 1.2 m). The Engineer may approve diamond shape warning signs measuring 36 inches x 36 inches (900 mm x 900 mm) when the posted speed limit is 30 M.P.H. or less.

Article 701.06 "Highway Standards Application" shall be modified by adding the following section:

(l) Standard 701331. When Standard 701331 is specified on two-lane, two-way roadways, the "DETOUR AHEAD" sign shall be replaced with a "LANE SHIFT AHEAD" sign.

Article 701.07 "Method of Measurement" shall be replaced completely with the following:

701.07 Method of Measurement.

These items of work will be measured on a lump sum basis for furnishing installing, maintaining, replacing, relocating and removing the traffic control devices required in the plans and these special provisions.

Article 701.08 "Basis of Payment" shall be replaced completely with the following:

701.08 Basis of Payment

This work will be paid for at the contract unit price per lump sum for TRAFFIC CONTROL AND PROTECTION. The payment will be in full for all labor, materials, transportation, and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans and specifications, except for the following items, which will be paid for separately.

(1) Temporary Bridge Traffic Signals
(2) Temporary Rumble Strips [where each is defined as 25 feet (8 m)].
(3) Temporary Raised Pavement Markers.

(4) Construction Speed Limit Trailer
(5) Sand module impact attenuators
(6) Temporary Bridge Rail
(7) Traffic Control Supervisor
(8) Portable Changeable Message Signs

The salvage value of the materials removed shall be reflected in the bid price for this item.

Any delays or inconveniences incurred by the Contractor while complying with these requirements shall be considered incidental to TRAFFIC CONTROL AND PROTECTION, and no additional compensation will be allowed.

Any traffic control devices required by the Engineer to implement the Traffic Control Plan as shown in the plans and specifications of the contract shall be considered incidental to the pay item TRAFFIC CONTROL AND PROTECTION.

If the Engineer requires additional work involving a substantial change of location and/or work which differs in design and/or work requiring a change in the type of construction, as stated in Article 104.02(d) of the "Standard Specifications" the standards and/or the designs, other than those required in the plans, will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required for the reasons listed above will be in accordance with Article 109.04 of the "Standard Specifications".

Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. The Contractor shall submit revisions or modifications to the traffic control plan shown in the contract to the Engineer for approval. No additional payment will be made for a Contractor requested modification.

In the event the sum total of all work items for which traffic control and protection is required is increased or decreased by more than ten percent (10%), the contract bid price for TRAFFIC CONTROL AND PROTECTION will be adjusted as follows:

Adjusted contract price = $0.25P + 0.75P\ [1 \pm (X-0.1]$
Where "P" is the contract price for TRAFFIC CONTROL AND PROTECTION

Difference between original and final sum total

Where "X" = value of all work items for which traffic control and protection is required. / Original sum total value of all work for which traffic control and protection is required.

The value of the work items used in calculating the increase and decrease will include only items that have been added to or deducted from the contract under Article 104.02 of the "Standard Specifications" and only items that require the use of TRAFFIC CONTROL AND PROTECTION.
In the event LCDOT cancels or alters any portion of the contract that results in the elimination or incompletion of any portion of the work, payment for partially completed work will be made in accordance with Article 104.02 of the "Standard Specifications".

Article 702.02 "Materials" shall be modified by adding the following paragraph:

The Contractor shall use traffic control devices, which are "crash worthy" in accordance with Manual of Uniform Traffic Control Devices and these special provisions. The Contractor shall provide proof of "crash worthiness" by submitting to the Engineer the appropriate "Letter of Certification" sent to the manufacturer of the device by the Federal Highway Administration. These "Letters of Certification shall be given to the Engineer at the preconstruction conference.

Article 702.03 "Channeling Devices" section (b) "Barricades", the first paragraph shall be replaced with the following paragraphs:

(b) Barricades. Type II nonmetallic barricades shall be used at all locations that call for Type I, Type 1A, or Type II barricades.

Any drop off greater than 3 inches (75 mm), but less than 6 inches (150 mm), located within 8 feet (2.5 m) of the pavement edge shall be protected by Type II barricades equipped with mono-directional steady burn lights. The barricades shall be placed at a spacing of 100 feet (30 m) center to center. For any drop off within 8 feet (2.5 m) of the pavement edge that exceeds 6 inches (150mm), the Type II barricades equipped with mono-directional steady burn lights shall be placed at a spacing of 50 feet (15 m) center to center. Barricades that must be placed in excavated areas shall have leg extensions installed so that the top of the barricade is in compliance with the height requirements of Standard 702001.

All Type II barricades, shall be equipped with a steady burn light when used during hours of darkness unless otherwise stated herein.

Check barricades shall be placed in work areas perpendicular to traffic every 1,000 feet (300 m), at one per lane and one per shoulder, to prevent motorists from using work areas as a traveled way. Two additional check barricades shall be placed in advance of each patch excavation or any other hazard in the work area. The first will be placed at the edge of the open traffic lane and the second centered on the closed lane. Check barricades shall be Type II and equipped with a flashing amber light

All Type II Barricades shall be made of plastic, fiberglass or other non-metallic materials. The top panels will be 12 inches x 24 inches (300mm x 600 mm) and the bottom panels will be 8 inches x 24 inches (200 mm x 600 mm). The orange and white reflective sheeting will be Type A, meeting the initial minimum coefficient of reflection in Article 1084.02 of the "Standard Specifications". All other requirements for Type II barricades will be met.

Direction Indicator Barricades shall be used exclusively in lane closure and lane shift tapers. They shall be used only when traffic is being merged with an adjacent through lane or flush median, shifted onto a median crossover or being diverted onto a construction run-around. The barricades shall be placed in series in a taper with the arrow panel directing traffic in the direction of the merge, crossover or run-around. The direction indicator barricades shall meet the requirements for Type II barricades as stated in this special provision. The top panel, which faces traffic, shall be 12 inches x 24 inches (300 mm x 600 mm) with fluorescent orange sheeting meeting the requirements of Article 1084.02(b) of the "Standard Specifications". The top panel indicator arrow shall be 21 inches (530 mm) long with a 9½ inch (240 mm) wide arrow barb and a 3½ inch (90 mm) wide arrow shaft. The top panel, facing away from traffic shall have a 12 inch x 24 inch (300 mm x 600 mm) orange and white diagonal panel. The bottom panels shall be 8 inches x 24 inches (200 mm x 600 mm) with orange and white diagonal sheeting, as shown in LCDOT's Special Detail LC7006. All sheeting shall meet the initial coefficient of retroreflection in Article 1084.02(a) of the "Standard Specifications", for Type A sheeting.

Article 702.03 "Channeling Devices", section (c) "Vertical Panels" shall be modified by adding the following paragraph:

All vertical panels shall be equipped with a steady burn light when used during the hours of darkness unless otherwise stated herein or in the plans. Non-metallic frame supported vertical panels may be used in lieu of Type II non-metallic barricades in areas which preclude the use of the Type II barricade.

Article 702.03 "Channeling Devices", section (e) shall be replaced with the following:

(e) Drums. Type II barricades shall be used in lieu of drums.

Article 702.05 "Signs", section (a) shall be modified by adding the following paragraphs:

Construction signs referring to daytime lane closures during working hours shall be removed, covered, or turned away from the view of motorists during non-working hours. Upon request, prior to the beginning of construction operations the Contractor will be provided a sign log of all existing signs within the limits of the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. The Contractor shall maintain all existing traffic signs throughout the duration of the project.

All provisions of Article 107.25 of the "Standard Specifications" shall apply except the third paragraph shall be revised to read:

The Contractor shall maintain, furnish and replace at his own expense, any traffic sign or post which has been damaged or lost by the Contractor or a third party. The Contractor will not be held liable for third party damage to large freeway guide signs.

Article 702.05 "Signs", section (d) "Work Zone Speed Limit Signing", paragraph (2) "Construction Speed Limit Signing", shall be modified by replacing the third sentence of the first paragraph with the following sentences:

Additional assembly(s) shall be placed beyond major intersections but shall not exceed a one (1) mile interval. An End Construction Speed Limit Sign shall be posted at the end of the Construction Speed Zone. All other speed limit signs shall be covered or removed within that portion of the zone where the Construction Speed Limit sign is being utilized.

Article 702.05 "Signs", section (d) "Work Zone Speed Limit Signing", paragraph (2) "Construction Speed Limit Signing", shall be modified by replacing the third paragraph with the following:

The speed limit shown shall be 10 M.P.H. below the posted or work zone speed limit, or 35 M.P.H. which ever is greater.

TRAFFIC SIGNAL SPECIFICATIONS

TRAFFIC SIGNAL SPECIFICATIONS

Effective: January 1, 2002 Revised: May 22, 2002

These Traffic Signal Special Provisions and the "District 1 Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

SECTION 720 SIGNING

MAST ARM SIGN PANELS.

Add the following to Section 720.02 of the Standard Specifications:

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the District Sign Shops. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

SECTION 800 ELECTRICAL

INSPECTION OF ELECTRICAL SYSTEMS.

Add the following to Section 802.01 of the Standard Specifications:

All cabinets including temporary traffic signal cabinets shall be assembled by an approved equipment supplier in District One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier facilities prior to field installation, at no extra cost to this contract. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

DAMAGE TO TRAFFIC SIGNAL SYSTEM.

Revise Section 802.02 of the Standard Specifications to read:

Any damaged equipment or equipment not operating properly from any cause whatsoever shall be repaired with new equipment provided by the Contractor at no additional cost to the Contract and or owner of the traffic signal system, all as approved by the Engineer. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.

RESTORATION OF WORK AREA.

Add to Section 802 of the Standard Specifications:

Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, trench and backfill, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. Restoration of the work area shall be incidental to the contract without any extra compensation allowed to the Contractor.

SUBMITTALS.

Revise Section 802.04 of the Standard Specifications to read:

The Contractor shall provide:

a. All material approval requests shall be submitted a minimum of seven (7) days prior to the delivery of equipment to the job site, or within 30 consecutive calendar days after the contract is awarded, or within 15 consecutive calendar days after the preconstruction meeting, whichever is first.
b. Seven (7) copies of a letter from the Traffic Signal Contractor listing the manufacturer's name and model numbers of the proposed equipment and stating that the proposed equipment meets all contract requirements. The letter will be reviewed by the Traffic Design Engineer to determine whether the equipment to be used is approvable. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.
c. One (1) copy of material catalog cuts.
d. Seven (7) copies of mast arm poles and assemblies.
e. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of the letter, material catalog cuts and mast arm poles and assemblies drawings as required in items b, c and d.
f. Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

MAINTENANCE AND RESPONSIBILITY.

Revise Section 802.07 of the Standard Specifications to read:

a) Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, or the Municipality in

which they are located. Once the Contractor has begun any work on any portion of the project all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation", "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation", shall become the full responsibility of the Contractor. The Contractor shall supply the engineer and the Department's Electrical Maintenance Contractor a 24-hour emergency contact name and telephone number.

b) When the project has a pay item for "Maintenance of Existing Traffic Signal Installation", "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation", the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4139 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

c) Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops do not require maintenance transfer, but require a notification of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4139 and the Department's Electrical Maintenance Contractor, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. See additional requirements in these specifications under Inductive Loop Detector.

d) The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shutdown the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

e) The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of $500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of $500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The

District's Electrical Maintenance Contractor may inspect any signalizing device on the Department's highway system at any time without notification.

TRAFFIC SIGNAL INSPECTION (TURN-ON).

Revise Section 802.10 of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the vendor prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4139 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (847) 705-4089.

The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a police officer to direct traffic at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following from the Contractor at traffic signal turn-ons.

1. One set of signal plans of record with field revisions marked in red ink.
2. Notification from the Contractor and the equipment vendor of satisfactory field testing.
3. A knowledgeable representative of the controller equipment supplier shall be required at the traffic signal turn-on. The representative shall be knowledgeable of the cabinet design and controller functions.
4. A copy of the approved material letter.
5. One (1) copy of the operation and service manuals of the signal controller and associated control equipment.
6. Five (5) copies (280 mm X 430 mm) 11" x 17" of the cabinet wiring diagrams.
7. The controller manufacturer shall provide a printer at the turn-on to supply a printed form, not to exceed (280 mm X 430 mm) 11" x 17" for recording the traffic signal

controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on." If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of $500 per month per incident.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements shall be subject to removal and disposal at the Contractor's expense.

LOCATING UNDERGROUND FACILITIES.

Revise Section 803.00 to the Standard Specifications to read:

If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District 1 Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities the local Counties or Municipalities may need to be contacted, in the City of Chicago contact D.I.G.G.E.R. at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123.

ELECTRIC SERVICE INSTALLATION.

Revise Section 805.00 of the Standard Specifications to read:

Description. This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the details in the "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications.

Materials.

a. General. The completed control panel shall be constructed in accordance with UL Std. 508, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

b. Enclosures.

1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 2.03 mm (0.080-inch) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 350 mm (14-inches) high, 225 mm (9-inches) wide and 200 mm (8-inches) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 3.175 mm (0.125-inch) thick, the top 6.350 mm (0.250-inch) thick and the bottom 12.70 mm (0.500-inch) thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel 1.91 mm (.075-inch) thick hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 1000 mm (40-inches high), 400 mm (16-inches) wide and 375 mm (15-inches) in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

c. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of –40C to +85C. The surge protector shall be UL 1449 Listed.

d. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, otherwise noted on the plans, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.

e. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.

f. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.

g. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

h. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 3.0 meters (10') in length, and 20mm (3/4") in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation

a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.

b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.

c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment. The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The type A foundation which includes the ground rod shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 20mm (3/4") grounding conduit, ground rod, and pole mount assembly. Any changes by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS.

Revise Section 807.00 of the Standard Specifications to read:

General. All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. See IDOT District 1 Traffic Signal detail plan sheet for additional information.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations were measured resistance exceeds 25 ohms. Ground rods are included in the applicable foundation paid item and will not be paid for separately.

Testing shall be according to Section 801.11.

a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.

b) The equipment grounding conductor shall be green color coded. The following is in addition to Section 801.14 of the Standard Specifications.
   1) Equipment grounding conductors shall be XLP insulated No. 6, unless otherwise noted on the plans, and bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.

   2) Equipment grounding conductors shall be bonded, using a Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. A Listed electrical joint compound shall be applied to all conductors terminations, connector threads and contact points.

   3) All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.

c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the

ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

HANDHOLES.

Add the following to Section 814.00 of the Standard Specifications:

All handholes shall be concrete, poured in place, with inside dimensions of 549 mm (21-1/2") minimum. Frames and lid openings shall match this dimension. The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

For grounding purposes the handhole frame shall have provisions for a 15.875 mm (7/16") diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 300 mm (12 inches).

All conduits shall enter the handhole at a depth of (760 mm) 30" except for the conduits for detector loops when the handhole is less than (1.52 m) 5' from the detector loop.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 9.525 mm (3/8") diameter and extend into the handhole at least 150 mm (6 inches). Hooks shall be placed a minimum of 300 mm (12 inches) below the lid or lower if additional space is required.

FIBER OPTIC TRACER CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Section 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. The tracer cable will be allowed to be spliced at the handholes only. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable splice shall use a Western Union Splice soldered with resin core flux. All exposed surfaces of the solder shall be smooth. Splices shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. The splice shall be covered with WCSMW 30/100 heat shrink tube, minimum length (100 mm) 4" and with a minimum (25 mm) 1" coverage over the XLP insulation, underwater grade.

Revise Section 817.05 of the Standard Specifications to read:

Basis of Payment: The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per (meter) foot, which price shall include all associated labor and material for installation.

GROUNDING CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Section 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a XLP jacket.

The traffic signal grounding conductor shall be bonded, using a Listed grounding connector (Burndy type KC/K2C, as applicable, or approved equal), to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. Bonding to existing handhole frames and covers shall be paid for separately.

Revise Section 817.05 of the Standard Specifications to read:

Basis of Payment. Grounding cable shall be measured in place for payment in (meter) foot. Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6, 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds/other Listed connectors and hardware.

RAILROAD INTERCONNECT CABLE.

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add to Section 817.02 of the Standard Specifications:

The cable shall be three conductor standard #14 copper cable in a clear polyester binder, shielded with #36 AWG tinned copper braid with 85% coverage, and insulated with .016" polyethylene (black, blue, red). The jacket shall be black 0.045 PVC or polyethylene.

Revise Section 817.05 of the Standard Specifications to read:

Basis of Payment. This work shall be paid for at the contract unit price per (meter) foot for ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C, which price shall be payment in full for furnishing, installing, and making all electrical connections in the traffic signal controller cabinet. Connections in the railroad controller cabinet shall be performed by railroad personnel.

MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

Revise Section 850.00 of the Standard Specifications to read:

The energy charges for the operation of the traffic signal installation shall be paid for by others. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof.

The Contractor shall have on staff electricians with IMSA Level II certification to provide signal maintenance.

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, telephone service installations, communication cables and conduits to adjacent intersections.

The maintenance shall be according to District 1 revised Article 802.07 and the following contained herein.

The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. At approaches where a yellow flashing indication is necessary, as directed by the Engineer, stop signs will not be required. The Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.

The Contractor shall provide the Engineer with a 24 hour telephone number for the maintenance of the traffic signal installation and for emergency calls by the Engineer.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

The Contractor shall respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the State. The Contractor may institute action to recover

damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work required. The State's

Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

Basis of Payment. This work shall be paid for at the contract unit price each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION.

TRAFFIC ACTUATED CONTROLLER.

Add the following to Section 857.00 of the Standard Specifications:

Controllers shall be NEMA TS2 Type 1, Econolite ASC/2S-1000 or Eagle M41 unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District 1 approved closed loop equipment manufacturers will be allowed. The controller shall be the most recent model and software version supplied by the manufacturer at the time of the approval. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase.

By December 31, 2002, the controller shall provide a background timer which will prevent phases from being skipped during program changes.

MASTER CONTROLLER.

Revise Sections 860.02 - Materials and 860.03 - Installation of the Standard Specifications to read:

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be allowed. Only NEMA TS 2 Type 1 Eagle and Econolite closed loop systems shall be supplied. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in section 863 of the Standard Specification include:

The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud minimum.

The cabinet shall be provided with a Siecor CAC 3000, or equivalent, Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service at a later date. The CAC 3000 shall be equipped with a standard Three-Electrode Heavy Duty Gas Tube Surge Arrestor.

The cabinet shall provide a caller identification unit with 50 number memory.

The cabinet shall be equipped with a 9600 baud, auto dial/auto answer, modem. It shall be a US robotics 33.6K baud rate or equal.

Each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacture's support. Each set shall consist of software on suitable media (CD, 3 1/2" or 5 1/4" floppy disks as requested by the Engineer), and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation, if other than IDOT. One of these two sets will be provided to the Agency Signal Maintenance Contractor for his use in monitoring the system.

The Contractor shall be required to setup graphic displays and all software parameters for every intersection to be interconnected under this Contract, including complete viewing and control capabilities from IDOT remote monitor.

The approved manufacturer of equipment shall loan the District one master controller and two intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the Contract.

The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process utilizing District 1 staff.

As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the Administrative Support Manager in the District 1 Business Services Section at (847) 705-4011 to request a phone line installation.

A follow-up fax transmittal to the Administrative Support Manager (847-705-4712) with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. A copy of this fax transmittal must also be faxed by the Contractor to the Traffic Signal Systems Engineer at (847) 705-4089. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); a nearby existing telephone number; what type of telephone service is needed; the name and number of the Contractor's employee for the telephone company to contact regarding site work and questions.

The usual time frame for the activation of the phone line is 4-6 weeks after the Business Services Section has received the Contractor supplied fax. It is, therefore, imperative that the

phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request to the Business Services Section until a point in time that is 4-6 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the Administrative Support Manager with an expected installation date considering the 4-6 week processing time.

The telephone line shall be installed and activated one month before the system final inspection.

All costs associated with the telephone line installation and activation (not including the Contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the District One Business Services Section (i.e., this will be an IDOT phone number not a Contractor phone number).

FIBER OPTIC CABLE.

Revise Section 871.00 of the Standard Specifications to read:

This work shall consist of furnishing and installing Fiber Optical cable in conduit with all accessories and connectors according to Section 871 of the Standard Specifications. The cable shall be of the type, size, and the number of fiber specified.

The control cabinet distribution enclosure shall be 3M Model 8173 or an approved equivalent. The fiber optic cable shall provide six fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of (4m) 13.0' of slack cable shall be provided for the controller cabinet. The controller cabinet slack cable shall be stored as directed by the Engineer.

Fiber Optic cable may be gel filled or an approved water blocking tape.

Basis of Payment. The work shall be paid for at the contract unit price for FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F, per (meter) foot for the cable in place, including distribution enclosure and all connectors.

CONCRETE FOUNDATIONS.

Add the following to Section 878.03 of the Standard Specifications:

All anchor bolts shall be according to Section 1006.09, except all anchor bolts shall be hot dipped galvanized the full length of the anchor bolt including the hook.

Concrete Foundations, Type "A" for Traffic Signal Posts shall provide anchor bolts with the bolt pattern specified within the "District 1 Standard Traffic Signal Design Details." All Type "A" foundations shall be a minimum depth of 1.22 m (48").

Concrete Foundations, Type "D" for Traffic Signal Cabinets shall be a minimum of 1.22 m (48") long and 790 mm (31") wide. All Type "D" foundations shall be a minimum depth of 1.22 m (48"). The concrete apron shall be 910 mm X 1220 mm X 130 mm (36"x48"x5"). Anchor bolts shall provide bolt spacing as required by the manufacturer.
Concrete Foundations, Type "E" for Mast Arm and Combination Mast Arm Poles shall meet the following requirements:

DESIGN TABLE FOR 750 mm (30-INCH) DIAMETER FOUNDATION
FOR ALL MAST ARMS 4.26M (14 FEET) TO 16.76M (55 FEET)
AND ALL COMBINATION POLES (DESIGN DEPTH IS 4.57 m [15 FEET])

	TYPE OF SOIL DESCRIPTION	DESIGN DEPTH OF FOUNDATION		TYPE OF SOIL DESCRIPTION	DESIGN DEPTH OF FOUNDATION
1.	SOFT CLAY	5.33 m(17' – 6")	*4.	LOOSE SAND	3.05 m(10' – 0")
2.	MEDIUM CLAY	3.81 m(12' – 6")	*5.	MEDIUM SAND	2.74 m(9' – 0")
3.	STIFF CLAY	2.59 m(8' – 6")	*6.	DENSE SAND	2.44 m(8' – 0")

* WATER TABLE ASSUMED BELOW DEPTHS SPECIFIED

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation. Foundations used for Roadway Lighting shall provide an extra 65 mm (2-1/2 inch) duct.

DETECTOR LOOP.

Revise Section 886 of the Standard Specifications to read:

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the Area Traffic Signal Maintenance and Operations Engineer (847) 705-4139 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the portland cement concrete surface, using the same notification process as above.

Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details". Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit 250W175C water proof tag, or an approved equal, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

(a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall

be cut with a 6.3 mm (1/4") deep x 100 mm (4") saw cut to mark location of each loop lead-in.

Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Percol Elastic Cement A/C Grade or an approved equal. The sealant shall be installed 3 mm (1/8") below the pavement surface, if installed above the surface the overlap shall be removed immediately.

Detector loop measurements shall include the saw cut and the length of the loop lead-in to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be incidental to the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be incidental to detector loop quantities.

(b) Preformed. This work shall consist of furnishing and installing a rubberized heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

Preformed detector loops shall be installed in new pavement constructed of portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be protected to the satisfaction of the Engineer.

Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole.

Preformed detector loops shall be factory assembled. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 17.2 mm (11/16") outside diameter (minimum), 9.5 mm (3/8") inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 1,720 kPa (250 psi) internal pressure rating. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. The wire used shall be #16 THWN stranded copper. The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire.

Basis of Payment. This work shall be paid for at the contract unit price per meter (foot) for DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation.

EMERGENCY VEHICLE PRIORITY SYSTEM.

Revise Section 887.00 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District 1 Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 150 watt Par 38 flood lamp for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signalized by a flashing indication at the rate specified by Section 4E-5 of the "Manual On Uniform Traffic Control Devices." The stopped pre-empted movements shall be signalized by a continuous indication.

All light operated systems shall operate at a uniform rate of 14.035 Hz ±0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

Basis of Payment. The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be incidental to the cost of the Light Detector. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

TEMPORARY TRAFFIC SIGNAL INSTALLATION.

Revise Section 890.00 of the Standard Specifications to read:

Only an approved equipment vendor will be allowed to assemble the temporary traffic signal cabinet. Also, an approved equipment vendor shall assemble and test a temporary railroad traffic signal cabinet. (Refer to the "Inspection of Controller and Cabinet" specification). A representative of the approved control equipment vendor shall be present at the temporary traffic signal turn-on inspection.

Only controllers supplied by one of the District approved closed loop equipment manufacturers will be approved for use at temporary signal locations. All controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS1 or TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All

controllers used for temporary traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption.

All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 100 mm (4 inch) diameter holes to run the electric cables through. The 100 mm (4 inch) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 Traffic Signal Specifications for "Grounding of Traffic Signal Systems".

All traffic signal sections and pedestrian signal sections shall be 300 mm (12 inches). The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough cable slack to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.

The existing system interconnect is to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be incidental to the item Temporary Traffic Signal Installation.

All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz ±0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be incidental to the item Temporary Traffic Signal Installation.

All temporary traffic signal installations shall have vehicular detection installed as shown on the plans or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. Minor cross streets shall have vehicular detection provided by Microwave Vehicle Sensors or Video Vehicle Detection System as shown on the plans or as directed by the Engineer. The microwave vehicle sensor or video vehicle detection system shall be approved by IDOT before furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for

adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or video vehicle detection system.

All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost.

The energy charges for the operation of the traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be the same manufacturer brand and model number with current software installed.

Maintenance shall meet the requirements of the Traffic Specifications and District Specifications for "Maintenance of Existing Traffic Signal Installation." Maintenance of temporary signals and of the existing signals shall be incidental to the cost of this item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. Maintenance responsibility of the existing signals shall be incidental to the item Temporary Traffic Signal Installation(s). In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic (847) 705-4139 for an inspection of the installation(s).

Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, District 1 Traffic Signal Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the above requirements for "Temporary Traffic Signal Installation". In addition all electric cable shall be aerially suspended, at a minimum height of 5.5m (18 feet), on temporary wood poles (Class 5 or better) of 13.7 m (45 feet), minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection may be used in place of the detector loops as approved by the Engineer.

Basis of Payment: This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION. The price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

Add the following to Section 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of by them outside the right-of-way at their expense.

All equipment to be returned to the State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the State, including model and serial numbers, where applicable. He shall also provide a copy of the Contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the State's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time he takes maintenance of the signal installation until the acceptance of a receipt drawn by the State's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up of all equipment to be returned to agencies other than the State. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications.

SECTION 1000 MATERIALS

PEDESTRIAN PUSH-BUTTON.

Add the following to Section 1074.02 (b) and (d) of the Standard Specifications to read:

(b) Push-button assemblies shall be a cast aluminum alloy Pelco Push-button station, or an approved equivalent.
(d) The assembly shall provide ADA push-buttons with one of the following signs: SF-1017, 1018 or 1020 - 5" x 7¾" (127 mm x 197 mm).

CONTROLLER CABINET AND PERIPHERAL EQUIPMENT.

Revise Section 1074.03 of the Standard Specifications to read:

Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.

- Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- Surge Protection – EDCO Model 1210 IRS with failure indicator.
- BIU – Containment screw required.
- Transfer Relays – Solid state or mechanical flash relays are acceptable.
- Switch Guards – All switches shall be guarded.
- Heating – Two (2) porcelain light receptacles with cage protection controlled by both a wall switch and a thermostat.
- Plan & Wiring Diagrams – 12" x 16" (3.05mm x 4.06mm) moisture sealed container attached to door.
- Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channel (16) of vehicular operation.
- Field Wiring Labels – All field wiring shall be labeled.
- Field Wiring Termination – Approved channel lugs required.
- Power Panel – Provide a nonconductive shield.
- Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- Police Door – Provide wiring and termination for plug in manual phase advance switch.
- Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.

TRAFFIC ACTUATED CONTROLLER AND CABINET INTERCONNECTED WITH RAILROADS.

Add the following to Section 1074.03 of the Standard Specifications to read:

Cabinets shall be new and NEMA TS2 Type 1 design. In addition to the aforementioned District One equipment specifications, the following shall apply to railroad interconnected equipment: Railroad interconnected controllers and cabinets shall be assembled only by an approved traffic signal equipment supplier. The equipment shall be tested and approved in the equipment suppliers District One facility prior to field installation.

Pedestrian clearance during railroad pre-emption shall be limited to a flashing don't walk interval in length to the vehicle yellow clearance interval and shall time concurrently with the vehicle yellow clearance.

The controller shall provide for immediate track clearance green re-service upon receipt of each subsequent pre-empt demand. During this re-service all normal vehicle clearance intervals, including red revert, will be respected.

The terminal facility shall be wired so as to provide supervision of all essential pre-emption components. This wiring shall cause the facility to transfer to or remain in flashing operation in the event any critical component is missing, not connected or failed. Interface relays shall be wired so as to be in the energized state during normal (non-pre-empt) operation. Failure of a relay coil shall open the supervision loop and cause the intersection to transfer to flashing operation. Each critical element such as controller harnesses and interface relays shall be wired to form a series loop which must be complete for normal operation.

A method of supervising the 3 conductor cable interconnecting the traffic and railroad facilities shall provide flashing operation during failed cable conditions. Upon detection of a failed railroad interconnect the controller shall provide one (1) track clearance green interval and shall enter flashing operation at end of track clearance yellow interval. Such flashing operation must be manually reset. The supervision circuit shall, within reason, be capable of detecting failure of the supervision circuit components themselves, and shall provide fail-safe operation upon such failure.

The interconnect to railroad facility shall be such that demand for pre-emption begins when the railroad flashers begin to flash and ends when railroad gates begin to rise.

An IDOT approved method of controller security shall be implemented to assure data integrity and to preclude changes to critical data. The method shall include a means for the controller to continuously verify controller/cabinet CRC match. The CRC will be developed based on pre-emptor entries, unit data (including phases in use, sequence and ring structure, etc.), overlap assignment and timing, firmware version, and any special memory content necessary to proper operation. Where data is stored in a data module a spare data module shall be provided to the Engineer.

A test switch shall be provided in the railroad circuit to initiate pre-emption. See cabinet specifications.

ELECTRIC CABLE.

Delete "or stranded, and No. 12 or" from the last sentence of Section 1076.04 (a) of the Standard Specifications.

MAST ARM ASSEMBLY AND POLE.

Add the following to Section 1077.03 (a) of the Standard Specifications:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization.

This work shall consist of furnishing and installing a galvanized steel or extruded aluminum shroud for protection of the mast arm pole base plate similar to the dimensions detailed in the "District 1 Standard Traffic Signal Design Details." The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall allow air to circulate throughout the mast arm but not allow manifestation of insects or critters. The shroud shall be constructed, installed and designed not to be hazardous to probing fingers and feet. All mounting hardware shall be stainless steel. The shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

TRAFFIC SIGNAL POST.

Add the following to Section 1077.03 (b) of the Standard Specifications:

All posts and bases shall be steel and hot dipped galvanized. If the Department approves painting, powder coating by the manufacturer will be required over the galvanization.

SIGNAL HEADS.

Add the following to Section 1078 of the Standard Specifications to read:

All signal and pedestrian heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black) or galvanized. A corrosive resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" lenses. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the "District 1 Standard Traffic Signal Design Details."

SIGNAL HEAD, BACKPLATE.

Delete 1st sentence of 1078.03 of the Standard Specifications and add "All backplates shall be aluminum and louvered".

INDUCTIVE LOOP DETECTOR.

Add the following to Section 1079.01 of the Standard Specifications:

Contracts requiring new cabinets shall provide for card mounted detector amplifiers. Loop amplifiers shall provide LCD displays with loop frequency, inductance, and change of inductance readings.

ILLUMINATED SIGN, LIGHT EMITTING DIODE.

Description. This work shall consist of furnishing and installing an illuminated sign with light emitting diodes.

General. The light emitting diode (LED) blank out signs shall be manufactured by National Sign & Signal Company, or an approved equal and consist of a weatherproof housing and door, LEDs and transformers.

Display. The LED blank out sign shall provide the correct symbol and color for "NO LEFT TURN" OR "NO RIGHT TURN" indicated in accordance with the requirements of the "Manual on Uniform Traffic Control Devices". The message shall be formed by rows of LEDs.

The message shall be clearly legible. The message shall be highly visible, anywhere and under any lighting conditions, within a 15 degree cone centered about the optic axis.
The sign face shall be 24 inches (600 mm) by 24 inches (600 mm). The sign face shall be completely illegible when not illuminated. No symbol shall be seen under any ambient light condition when not illuminated.

All LEDs shall be T-1 ¾ (5mm) and have an expected lamplife of 100,000 hours. Operating wavelengths will be Red-626nm, Amber-590nm, and Bluish/Green-505nm. Transformers shall be rated for the line voltage with Class A insulation and weatherproofing. The sign shall be designed for operation over a range of temperatures from –35F to +165 F (-37C to +75C).

The LED module shall include the message plate, high intensity LEDs and LED drive electronics. Door panels shall be flat black and electrical connections shall be made via barrier-type terminal strip. All fasteners and hardware shall be corrosion resistant stainless steel.

Housing. The housing shall be constructed of extruded aluminum. All corners and seams shall be heli-arc welded to provide a weatherproof seal around the entire case. Hinges shall be continuous full-length stainless steel. Signs shall have stainless steel hardware and provide tool free access to the interior of the sign. Doors shall be 0.125-inch thick extruded aluminum with a 3/16-inch x 1-inch neoprene gasket and sun hood. The sign face shall have a polycarbonate, matte clear, lexan face plate. Drainage shall be provided by four drain holes at the corners of the housing. The finish on the sign housing shall include two coats of exterior enamel applied after the surface is acid-etched and primed with zinc-chromate primer.

Mounting hardware shall be black polycarbonate or galvanized steel and similar to mounting Signal Head hardware and brackets specified herein.

Basis of Payment. This work shall be paid for at the unit price each for ILLUMINATED SIGN, L.E.D.

GROUNDING EXISTING HANDHOLE FRAME AND COVER.

Description. This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty Listed grounding compression terminal (Burndy type YGHA or approved equal). The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminates. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement. Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment. This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

This work shall consist of providing a revised Signal Coordination and Timing (SCAT) Report and implementing optimized timings to an existing previously optimized closed loop traffic signal system. This work is required due to the addition of a signalized intersection to an existing system or a modification of an existing signalized intersection which affects the quality of an existing system's operation. MAINTENANCE OF THE SUBJECT INTERSECTION SHALL NOT BE ACCEPTED BY THE DEPARTMENT UNTIL THIS WORK IS COMPLETED.

After the new signalized intersection is added or the existing signal is modified, the traffic signal system shall be re-optimized by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District 1 of the Illinois Department of Transportation. The Contractor shall contact the Area Traffic Signal Operations Engineer at (708) 705-4139 for a listing of approved Consultants.

A listing of existing signal equipment, interconnect information and existing phasing/timing patterns may be obtained from the Department if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank floppy disks, copies containing software runs for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall consult with the Area Traffic Signal Operations Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system; in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the re-optimization.

Traffic counts shall be taken at the subject intersection a minimum of 30 days after the traffic signals are approved for operation by the Area Traffic signal Operations Engineer. Seven day/twenty-four hour automatic traffic recorder counts will be required and manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m. and 3:30 p.m. to 6:30 p.m. on typical weekday from midday Monday to midday Friday, and if necessary, on the weekend. Additional manual turning movement counts may be necessary if heavy traffic flows exist during off peak hours. The turning movement counts shall identify cars, heavy vehicles, buses, and pedestrian movements.

A Capacity Analysis shall be conducted at the subject intersection to determine its level of service and degree of saturation. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system with minor adjustments if necessary. Changes to the cycle lengths and offsets for the entire system may be required due to the addition/modification of the subject intersection. Both volume and occupancy shall be considered when developing the re-optimized timing program. Signal system optimization analyses shall be conducted utilizing SYNCHRO, PASSER II, TRANSYT 7F, SIGNAL 2000 or other appropriate approved computer software.

If the system is being re-optimized due to the addition of a signalized intersection, all the intersections shall be re-addressed according to the current standard of District One. The proposed signal timing plan shall be forwarded to IDOT for review prior to implementation. The timing plan shall include a traffic responsive program and a time-of-day program which may be used as a back-up system. After downloading the system timings, the Consultant shall make

fine tuning adjustments to the timing in the field to alleviate observed adverse operating conditions and to enhance operations.

The Consultant shall furnish to IDOT an original and two copies of the revised SCAT Report for the re-optimized system. The report shall contain the following: turning movement and automatic traffic recorder counts, capacity analyses for each count period, computer optimization analysis for each count period, proposed implementation plans and summaries including system description, analysis methodology, method of effectiveness comparison results and special recommendations and/or observations. The new report shall follow the format of the old report and shall incorporate all data from the old report which remains unchanged. Copies of the entire database including intersection displays and any other displays which the system software allows shall be furnished to IDOT and to IDOT's Traffic Signal Maintenance Contractor.

Basis of Payment. This work shall be paid for at the contract unit price per lump sum for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, which price shall be payment in full for performing all work described herein.

UNIT DUCT.

All installations of Unit Duct shall be incidental to the contract and not paid for separately. Polyethylene unit duct shall be used for detector loop raceways to the handholes. On temporary traffic signal installations with detector loops, polyethylene unit duct shall be used for detector loop raceways from the saw-cut to (3 m) 10' up the wood pole, unless otherwise shown on the plans. Unit duct shall meet the requirements of NEC Article 343.

SIGNAL HEAD, LIGHT EMITTING DIODE.

a) General:

1) Signal Head, Light Emitting Diode (LED), 1 Face, (All Section Quantities), (All Mounting Types) shall meet the requirements of Sections 880 and 881 and Articles 1078.01 and 1078.02 of the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2002, with the following modifications:

2) All signal and pedestrian heads shall be 300 mm (12") glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black) or galvanized. A corrosive resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

3) The optical unit of all traffic signal and pedestrian head sections shall be light emitting diodes (LEDs) instead of incandescent bulbs. Each signal head shall conform fully to the "Interim Purchase Specification of the Institute of Transportation Engineers (ITE) for LED Vehicle Traffic Signal Modules" published July, 1998, or applicable successor ITE specification.

4) The lens of each signal indication shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating applied to provide abrasion resistance.

5) Each pedestrian signal LED module shall provide the ability to actuate the outlined upraised hand and the outlined walking person on one 12-inch (300mm) section. Two (2) sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

6) The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

7) In the event of a power outage, light output from the LED modules shall cease instantaneously.

8) In addition to conforming with the requirements for circular LED signal modules, LED arrow indication modules shall meet existing specifications stated in the ITE Standard: "Vehicle Traffic Control Signal Heads," section 9.01. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs. The LEDs shall be spread evenly across the illuminated portion of the arrow area.

9) The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Section 4.1.1 of the Interim Purchase Specification of the ITE for LED Vehicle Traffic Signal Modules within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the State.

10) Each module shall consist of an assembly that utilizes LEDs as the light source in lieu of an incandescent lamp for use in traffic signal sections.

11) The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40°C to +74°C.

12) The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

b) Electrical

1) Maximum power consumption for LED modules is per Table 1.

2) LED modules will have EPA Energy Star compliance ratings, if applicable to that shape, size and color.

3) The modules shall operate from a 60 HZ ±3 HZ AC line over a voltage ranging from 95 volts to 135 volts. The fluctuations of line voltage shall have no visible effect on the luminous intensity of the indications.

4) Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.

5) The LED signal module shall have a power factor of 0.90 or greater.

6) Total harmonic distortion (current and voltage) induced into an AC power line by a LED signal module shall not exceed 20 percent.

7) The signal module on-board circuitry shall include voltage surge protection to withstand high-repetition noise transients as stated in Section 2.1.6 of NEMA Standard TS-2, 1992.

8) The LED circuitry shall prevent perceptible flicker to the unaided eye over the voltage range specified above.

9) All wiring and terminal blocks shall meet the requirements of Section 13.02 of the ITE Publication: Equipment and Material Standards, Chapter 2 (Vehicle Traffic Control Signal Heads).

10) The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).

11) When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.

12) The modules and associated on-board circuitry must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, SubPart B, Section 15 regulations concerning the emission of electronic noise.

c) Photometric Requirements

1) The minimum initial luminous intensity values for the modules shall be as stated in Table 2 and/or Table 4 at 25°C.

2) The modules shall meet or exceed the illumination values as shown in Table 3 and/or Table 4, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.

3) The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Table 5, throughout the useful life over the operating temperature range.

d) Environmental Requirements

1) The LED signal module shall be rated for use in the operating temperature range of -40°C (-40°F) to +74°C (+165°F). The modules shall meet all specifications throughout this range.

2) The LED signal module shall be protected against dust and moisture intrusion per the requirements of NEMA Standard 250-1991 for Type 4 enclosures to protect all internal components.

e) Construction

1) The LED signal module shall be a single, self-contained device, not requiring on-site assembly for installation. The power supply for the module shall be integral to the unit.

2) The circuit board and power supply shall be contained inside the module.

3) The assembly and manufacturing process for the LED signal assembly shall be designed to assure all internal components are adequately supported to withstand mechanical shock and vibration from high winds and other sources.

f) Materials

1) Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.

2) Enclosures containing either the power supply or electronic components of the signal module shall be made of UL94VO flame retardant materials. The lens of the signal module is excluded from this requirement.

g) Traffic Signal and Pedestrian LED Module Identification

1) Each module shall have the manufacturer's name, trademark, model number, serial number, date of manufacture (month-year), and lot number as identification permanently marked on the back of the module.

2) The following operating characteristics shall be permanently marked on the back of the module: rated voltage and rated power in Watts and Volt-Ampere.

3) Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 25.4 mm (one inch) in diameter. Additionally, the color shall be written out in 12.7mm (½ in) letters next to the symbol.

4) If a specific mounting orientation is required, each module shall have prominent and permanent marking(s) for correct indexing and orientation within a signal housing. The markings shall consist of an up arrow, or the word "UP" or "TOP".

h) Traffic Signal LED Module

1) Modules can be manufactured under this specification for the following faces:

a 300 mm (12-inch) circular, multi-section
b 300 mm (12-inch) arrow, multi-section
c 300 mm (12-inch) pedestrian, 2 sections

2) The maximum weight of a module shall be 1.8 kg (4 lbs.).

3) Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

i) Retrofit Traffic Signal Module

1) The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superceded in this section.

2) Retrofit modules can be manufactured under this specification for the following faces:

a 300 mm (12-inch) circular, multi-section
b 300 mm (12-inch) arrow, multi-section
c 300 mm (12-inch) pedestrian, 2 sections

3) The module shall fit into existing traffic signal section housings built to the specifications detailed in ITE Publication: Equipment and Material Standards, Chapter (Vehicle Traffic Control Signal Heads).

4) Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.

5) The maximum weight of a Retrofit module shall be 1.8 kg (4 lbs.).

6) Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

7) The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

j) Two secured, color coded, 600 V, 20 AWG minimum, jacketed wires, conforming to the National Electric Code, rated for service at +105°C, are to be provided for electrical connection for each LED signal module. Conductors for modules, including Retrofit modules, shall be 39.4-inches (1m) in length, with quick disconnect terminals attached.

k) Lens

1) The lens of the module shall be tinted and integral to the unit, convex with a smooth outer surface and made of plastic.

2) The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

3) The LED signal module lens shall be UV stabilized and shall be capable of withstanding ultraviolet (direct sunlight) exposure for a minimum period of 60 months without exhibiting evidence of deterioration.

4) The polymeric lens shall have a surface coating or chemical surface treatment to provide front surface abrasion resistance.

l) The following specification requirements apply to the 12-inch (300 mm) arrow module only. All general specifications apply unless specifically superceded in this section.

1) The arrow module shall meet specifications stated in Section 9.01 of the ITE Publication: Equipment and Material Standards, Chapter 2 (Vehicle Traffic Control Signal Heads) for arrow indications.

2) The LEDs shall be spread evenly across the illuminated portion of the arrow area.

m) The following specification requirements apply to the 12-inch (300 mm) PV module only. All general specifications apply unless specifically superceded in this section.

1) The module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

2) The LEDs shall be spread evenly across the module.

Basis of Payment. This item shall be paid for at the contract unit price each for SIGNAL HEAD, LED, of the type specified, which price shall be payment in full for furnishing the equipment described above including signal head, LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

Pedestrian head(s) shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, of the type specified and of the particular kind of material when specified.

The type specified will indicate the number of faces and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for SIGNAL HEAD, LED of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition.

The type specified will indicate the number of faces and the method of mounting.

TABLES

Table 1 Maximum Power Consumption (in Watts)

	Red		Yellow		Green	
Temperature	25°C	74°C	25°C	74°C	25°C	74°C
300 mm (12-inch) circular	11	17	22	25	15	15
300 mm (12-inch)arrow	9	12	10	12	11	11
	Hand–Portland Orange		Person-White			
Pedestrian Indication	6.2		6.3			

Table 2 Minimum Initial Intensities for Circular Indications (in cd)

	300 mm (12-inch)		
Angle(v,h)	Red	Yellow	Green
2.5, ±2.5	399	798	798
2.5, ±7.5	295	589	589
2.5, ±12.5	166	333	333
2.5, ±17.5	90	181	181
7.5, ±2.5	266	532	532
7.5, ±7.5	238	475	475
7.5, ±12.5	171	342	342
7.5, ±17.	105	209	209
7.5, ±22.5	45	90	90
7.5, ±27.5	19	38	38
12.5, ±2.5	59	119	119
12.5, ±7.5	57	114	114
12.5, ±12.5	52	105	105
12.5, ±17.5	40	81	81
12.5, ±22.5	26	52	52
12.5, ±27.5	19	38	38
17.5, ±2.5	26	52	52
17.5, ±7.5	26	52	52
17.5, ±12.5	26	52	52
17.5, ±17.5	26	52	52
17.5, ±22.5	24	48	48
17.5, ±27.5	19	38	38

Table 3 Maintained Minimum Intensities for Circular Indications (in cd)

	300 mm (12-inch)		
Angle(v,h)	Red	Yellow	Green
2.5, ±2.5	339	678	678
2.5, ±7.5	251	501	501
2.5, ±12.5	141	283	283
2.5, ±17.5	77	154	154
7.5, ±2.5	226	452	452
7.5, ±7.5	202	404	404
7.5, ±12.5	145	291	291
7.5, ±17.	89	178	178
7.5, ±22.5	38	77	77
7.5, ±27.5	16	32	32
12.5, ±2.5	50	101	101
12.5, ±7.5	48	97	97
12.5, ±12.5	44	89	89
12.5, ±17.5	34	69	69
12.5, ±22.5	22	44	44
12.5, ±27.5	16	32	32
17.5, ±2.5	22	44	44
17.5, ±7.5	22	44	44
17.5, ±12.5	22	44	44
17.5, ±17.5	22	44	44
17.5, ±22.5	20	41	41
17.5, ±27.5	16	32	32

Table 4 Minimum Initial & Maintained Intensities for Arrow and Pedestrian Indications (in cd/m2)

	Red	Yellow	Green
Arrow Indication	5,500	11,000	11,000

Table 5 Chromaticity Standards (CIE Chart) Section 8.04 of

Red	Y: not greater than 0.308, or less than 0.998 – x
Yellow	Y: not less than 0.411, nor less than 0.995 - x,
Green	Y: Not less than 0.506 -.519x, nor less than 0.150 + 1.068x, nor more than 0.730 - x

Disadvantaged Business Enterprise Participation

Effective: September 1, 2000
Revised: June 1, 2004

FEDERAL OBLIGATION. The Department of Transportation, as a recipient of federal financial assistance, is required to take all necessary and reasonable steps to ensure nondiscrimination in the award and administration of contracts. Consequently, the federal regulatory provisions of 49 CFR part 26 apply to this contract concerning the utilization of disadvantaged business enterprises. This Special Provision will also be used by the Department to satisfy the requirements of the Business Enterprise for Minorities, Females, and Persons with Disabilities Act, 30 ILCS 575. For the purposes of this Special Provision, a disadvantaged business enterprise (DBE) means a business certified by the Department in accordance with the requirements of 49 CFR part 26 and listed in the DBE Directory or most recent addendum.

CONTRACTOR ASSURANCE. The Contractor makes the following assurance and agrees to include the assurance in each subcontract that the Contractor signs with a subcontractor:

> The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of federally-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

OVERALL GOAL SET FOR THE DEPARTMENT. As a requirement of compliance with 49 CFR part 26, the Department has set an overall goal for DBE participation in its federally assisted contracts. That goal applies to all federal-aid funds the Department will expend in its federally assisted contracts for the subject reporting fiscal year. The Department is required to make a good faith effort to achieve the overall goal. The dollar amount paid to all approved DBE firms performing work called for in this contract is eligible to be credited toward fulfillment of the Department's overall goal.

CONTRACT GOAL TO BE ACHIEVED BY THE CONTRACTOR. This contract includes a specific DBE utilization goal established by the Department. The goal has been included because the Department has determined that the work of this contract has subcontracting opportunities that may be suitable for performance by DBE companies. This determination is based on an assessment of the type of work, the location of the work, and the availability of DBE companies to do a part of the work. The assessment indicates that, in the absence of unlawful discrimination, and in an arena of fair and open competition, DBE companies can be expected to perform 14.00% of the work. This percentage is set as the DBE participation goal for this contract. Consequently, in addition to the other award criteria established for this contract, the Department will award this contract to a bidder who makes a good faith effort to meet this goal of DBE participation in the performance of the work. A bidder makes a good faith effort for award consideration if either of the following is done in accordance with the procedures set forth in this Special Provision:

(a) The bidder documents that firmly committed DBE participation has been obtained to meet the goal; or

(b) The bidder documents that a good faith effort has been made to meet the goal, even though the effort did not succeed in obtaining enough DBE participation to meet the goal.

DBE LOCATOR REFERENCES. Bidders may consult the DBE Directory as a reference source for DBE companies certified by the Department. In addition, the Department maintains a letting and item specific DBE locator information system whereby DBE companies can register their interest in providing quotes on particular bid items advertised for letting. Information concerning DBE companies willing to quote work for particular contracts may be obtained by contacting the Department's Bureau of Small Business Enterprises at telephone number (217)785-4611, or by visiting the Department's web site at www.dot.state.il.us.

BIDDING PROCEDURES. Compliance with the bidding procedures of this Special Provision is required prior to the award of the contract and the failure of the as-read low bidder to comply will render the bid nonresponsive.

(a) In order to assure the timely award of the contract, the as-read low bidder must submit a Disadvantaged Business Utilization Plan on Department form SBE 2026 within seven (7) working days after the date of letting. To meet the seven (7) day requirement , the bidder may send the Plan by certified mail or delivery service within the seven (7) working day period. If a question arises concerning the mailing date of a Plan, the mailing date will be established by the U.S. Postal Service postmark on the original certified mail receipt from the U.S. Postal Service or the receipt issued by a delivery service. It is the responsibility of the as-read low bidder to ensure that the postmark or receipt date is affixed within the seven (7) working days if the bidder intends to rely upon mailing or delivery to satisfy the submission day requirement. The Plan is to be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). It is the responsibility of the bidder to obtain confirmation of telefax delivery. The Department will not accept a Utilization Plan if it does not meet the seven (7) day submittal requirement, and the bid will be declared nonresponsive. In the event the bid is declared nonresponsive due to a failure to submit a Plan or failure to comply with the bidding procedures set forth herein, the Department may elect to cause the forfeiture of the penal sum of the bidder's proposal guaranty, and may deny authorization to bid the project if re-advertised for bids. The Department reserves the right to invite any other bidder to submit a Utilization Plan at any time for award consideration or to extend the time for award.

(b) The Utilization Plan shall indicate that the bidder either has obtained sufficient DBE participation commitments to meet the contract goal or has not obtained enough DBE participation commitments in spite of a good faith effort to meet the goal. The Utilization Plan shall further provide the name, telephone number and telefax number of a responsible official of the bidder designated for purposes of notification of plan approval or disapproval under the procedures of this Special Provision.

(c) The Utilization Plan shall include a DBE Participation Commitment Statement, Department form SBE 2025, for each DBE proposed for the performance of work to achieve the contract goal. The signatures on these forms must be original signatures. All elements of information indicated on the said form shall be provided, including but not limited to the following:

(1) The name and address of each DBE to be used;

(2) A description, including pay item numbers, of the commercially useful work to be done by each DBE;

(3) The price to be paid to each DBE for the identified work specifically stating the quantity, unit price and total subcontract price for the work to be completed by the DBE. If partial pay items are to be performed by the DBE, indicate the portion of each item, a unit price where appropriate and the subcontract price amount;

(4) A commitment statement signed by the bidder and each DBE evidencing availability and intent to perform commercially useful work on the project; and

(5) If the bidder is a joint venture comprised of DBE firms and non-DBE firms, the plan must also include a clear identification of the portion of the work to be performed by the DBE partner(s).

(d) The contract will not be awarded until the Utilization Plan submitted by the bidder is approved. The Utilization Plan will be approved by the Department if the Plan commits sufficient commercially useful DBE work performance to meet the contract goal. The Utilization Plan will not be approved by the Department if the Plan does not commit sufficient DBE performance to meet the contract goal unless the bidder documents that it made a good faith effort to meet the goal. The good faith procedures of Section VIII of this special provision apply. If the Utilization Plan is not approved because it is deficient in a technical matter, unless waived by the Department, the bidder will be notified and will be allowed no less than a five (5) working day period in order to cure the deficiency.

CALCULATING DBE PARTICIPATION. The Utilization Plan values represent work anticipated to be performed and paid for upon satisfactory completion. The Department is only able to count toward the achievement of the overall goal and the contract goal the value of payments made for the work actually performed by DBE companies. In addition, a DBE must perform a commercially useful function on the contract to be counted. A commercially useful function is generally performed when the DBE is responsible for the work and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. The Department and Contractor are governed by the provisions of 49 CFR part 26.55(c) on questions of commercially useful functions as it affects the work. Specific counting guidelines are provided in 49 CFR part 26.55, the provisions of which govern over the summary contained herein.

(a) DBE as the Contractor: 100% goal credit for that portion of the work performed by the DBE's own forces, including the cost of materials and supplies. Work that a DBE subcontracts to a non-DBE firm does not count toward the DBE goals.

(b) DBE as a joint venture Contractor: 100% goal credit for that portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work performed by the DBE's own forces.

(c) DBE as a subcontractor: 100% goal credit for the work of the subcontract performed by the DBE's own forces, including the cost of materials and supplies, excluding the purchase of materials and supplies or the lease of equipment by the DBE subcontractor

from the prime contractor or its affiliates. Work that a DBE subcontractor in turn subcontracts to a non-DBE firm does not count toward the DBE goal.

(d) DBE as a trucker: 100% goal credit for trucking participation provided the DBE is responsible for the management and supervision of the entire trucking operation for which it is responsible. At least one truck owned, operated, licensed and insured by the DBE must be used on the contact. Credit will be given for the full value of all such DBE trucks operated using DBE employed drivers. Goal credit will be limited to the value of the reasonable fee or commission received by the DBE if trucks are leased from a non-DBE company.

(e) DBE as a material supplier:

(1) 60% goal credit for the cost of the materials or supplies purchased from a DBE regular dealer.

(2) 100% goal credit for the cost of materials or supplies obtained from a DBE manufacturer.

(3) 100% credit for the value of reasonable fees and commissions for the procurement of materials and supplies if not a regular dealer or manufacturer.

GOOD FAITH EFFORT PROCEDURES. If the bidder cannot obtain sufficient DBE commitments to meet the contract goal, the bidder must document in the Utilization Plan the good faith efforts made in the attempt to meet the goal. This means that the bidder must show that all necessary and reasonable steps were taken to achieve the contract goal. Necessary and reasonable steps are those which could reasonably be expected to obtain sufficient DBE participation. The Department will consider the quality, quantity and intensity of the kinds of efforts that the bidder has made. Mere *pro forma* efforts are not good faith efforts; rather, the bidder is expected to have taken those efforts that would be reasonably expected of a bidder actively and aggressively trying to obtain DBE participation sufficient to meet the contract goal.

(a) The following is a list of types of action that the Department will consider as part of the evaluation of the bidder's good faith efforts to obtain participation. These listed factors are not intended to be a mandatory checklist and are not intended to be exhaustive. Other factors or efforts brought to the attention of the Department may be relevant in appropriate cases, and will be considered by the Department.

(1) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBE companies that have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBE companies to respond to the solicitation. The bidder must determine with certainty if the DBE companies are interested by taking appropriate steps to follow up initial solicitations.

(2) Selecting portions of the work to be performed by DBE companies in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

(3) Providing interested DBE companies with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(4) a. Negotiating in good faith with interested DBE companies. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBE companies that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBE companies to perform the work.

b. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBE companies is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBE companies if the price difference is excessive or unreasonable.

(5) Not rejecting DBE companies as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal.

(6) Making efforts to assist interested DBE companies in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

(7) Making efforts to assist interested DBE companies in obtaining necessary equipment, supplies, materials, or related assistance or services.

(8) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBE companies.

(b) If the Department determines that the Contractor has made a good faith effort to secure the work commitment of DBE companies to meet the contract goal, the Department will award the contract provided that it is otherwise eligible for award. If the Department determines that a good faith effort has not been made, the Department will notify the bidder of that preliminary determination by contacting the responsible company official designated in the Utilization Plan. The preliminary determination shall include a statement of reasons why good faith efforts have not been found, and may include additional good faith efforts that the bidder could take. The notification will designate a

five (5) working day period during which the bidder shall take additional efforts. The bidder is not limited by a statement of additional efforts, but may take other action beyond any stated additional efforts in order to obtain additional DBE commitments. The bidder shall submit an amended Utilization Plan if additional DBE commitments to meet the contract goal are secured. If additional DBE commitments sufficient to meet the contract goal are not secured, the bidder shall report the final good faith efforts made in the time allotted. All additional efforts taken by the bidder will be considered as part of the bidder's good faith efforts. If the bidder is not able to meet the goal after taking additional efforts, the Department will make a pre-final determination of the good faith efforts of the bidder and will notify the designated responsible company official of the reasons for an adverse determination.

(c) The bidder may request administrative reconsideration of a pre-final determination adverse to the bidder within the five (5) working days after the notification date of the determination by delivering the request to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen Parkway, Room 319, Springfield, Illinois 62764 (Telefax: (217)785-1524). Deposit of the request in the United States mail on or before the fifth business day shall not be deemed delivery. The pre-final determination shall become final if a request is not made and delivered. A request may provide additional written documentation and/or argument concerning the issue of whether an adequate good faith effort was made to meet the contract goal. In addition, the request shall be considered a consent by the bidder to extend the time for award. The request will be forwarded to the Department's Reconsideration Officer. The Reconsideration Officer will extend an opportunity to the bidder to meet in person in order to consider all issues of whether the bidder made a good faith effort to meet the goal. After the review by the Reconsideration Officer, the bidder will be sent a written decision within ten (10) working days after receipt of the request for reconsideration, explaining the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so. A final decision by the Reconsideration Officer that a good faith effort was made shall approve the Utilization Plan submitted by the bidder and shall clear the contract for award. A final decision that a good faith effort was not made shall render the bid nonresponsive.

CONTRACT COMPLIANCE. Compliance with this Special Provision is an essential part of the contract. The Department is prohibited by federal regulations from crediting the participation of a DBE included in the Utilization Plan toward either the contract goal or the Department's overall goal until the amount to be applied toward the goals has been paid to the DBE. The following administrative procedures and remedies govern the compliance by the Contractor with the contractual obligations established by the Utilization Plan. After approval of the Plan and award of the contract, the Utilization Plan and individual DBE Participation Statements become part of the contract. If the contractor did not succeed in obtaining enough DBE participation to achieve the advertised contract goal, and the Utilization Plan was approved and contract awarded based upon a determination of good faith, the total dollar value of DBE work calculated in the approved Utilization Plan as a percentage of the awarded contract value shall become the amended contract goal.

(a) No amendment to the Utilization Plan may be made without prior written approval from the Department's Bureau of Small Business Enterprises. All requests for amendment to the Utilization Plan shall be submitted to the Department of Transportation, Bureau of Small Business Enterprises, Contract Compliance Section, 2300 South Dirksen

Parkway, Room 319, Springfield, Illinois 62764. Telephone number (217) 785-4611. Telefax number (217) 785-1524.

(b) All work indicated for performance by an approved DBE shall be performed, managed and supervised by the DBE executing the Participation Statement. The Contractor shall not terminate for convenience a DBE listed in the Utilization Plan and then perform the work of the terminated DBE with its own forces, those of an affiliate or those of another subcontractor, whether DBE or not, without first obtaining the written consent of the Bureau of Small Business Enterprises to amend the Utilization Plan. If a DBE listed in the Utilization Plan is terminated for reasons other than convenience, or fails to complete its work on the contract for any reason, the Contractor shall make good faith efforts to find another DBE to substitute for the terminated DBE. The good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, but only to the extent needed to meet the contract goal or the amended contract goal. The Contractor shall notify the Bureau of Small Business Enterprises of any termination for reasons other than convenience, and shall obtain approval for inclusion of the substitute DBE in the Utilization Plan. If good faith efforts following a termination of a DBE for cause are not successful, the Contractor shall contact the Bureau and provide a full accounting of the efforts undertaken to obtain substitute DBE participation. The Bureau will evaluate the good faith efforts in light of all circumstances surrounding the performance status of the contract, and determine whether the contract goal should be amended.

(c) The Contractor shall maintain a record of payments for work performed to the DBE participants. The records shall be made available to the Department for inspection upon request. After the performance of the final item of work or delivery of material by a DBE and final payment therefor to the DBE by the Contractor, but not later than thirty (30) calendar days after payment has been made by the Department to the Contractor for such work or material, the Contractor shall submit a DBE Payment Report on Department form SBE 2115 to the District Engineer. If full and final payment has not been made to the DBE, the Report shall indicate whether a disagreement as to the payment required exists between the Contractor and the DBE or if the Contractor believes that the work has not been satisfactorily completed. If the Contractor does not have the full amount of work indicated in the Utilization Plan performed by the DBE companies indicated in the Plan, the Department will deduct from contract payments to the Contractor the amount of the goal not achieved as liquidated and ascertained damages.

(d) The Department reserves the right to withhold payment to the Contractor to enforce the provisions of this Special Provision. Final payment shall not be made on the contract until such time as the Contractor submits sufficient documentation demonstrating achievement of the goal in accordance with this Special Provision or after liquidated damages have been determined and collected.

Training Special Provisions

Effective: October 15, 1975

This Training Special Provision supersedes Section 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," and is in implementation of 23 U.S.C. 140(a).

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The contractor shall provide on-the-job training aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract will be 3. In the event the contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within the reasonable area of recruitment. Prior to commencing construction, the contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the contractor shall specify the starting time for training in each of the classifications. The contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be

obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather then clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The contractor shall furnish the trainee a copy of the program he will follow in providing the training. The contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

METHOD OF MEASUREMENT. The unit of measurement is in hours.

BASIS OF PAYMENT. This work will be paid for at the contract unit price of 80 cents per hour for TRAINEES. The estimated total number of hours, unit price and total price have been included in the schedule of prices.

Payments to Subcontractors

Effective: June 1, 2000
Revised: September 1, 2003

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts no later than 30 days from the receipt of each payment made to the Contractor.

State law addresses the timing of payments to be made to subcontractors. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, generally requires that when a Contractor receives any payment from the Department, the Contractor is required to make corresponding, proportional payments to each subcontractor performing work within 15 calendar days after receipt of the state payment. Section 7 of the State Prompt Payment Act further provides that interest in the amount of 2% per month, in addition to the payment due, shall be paid to any subcontractor by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors throughout the contracting chain.

This Special Provision establishes the required federal contract clause, and adopts the 15 calendar day requirement of the Act for purposes of compliance with the federal regulation regarding payments to subcontractors. This contract is subject to the following payment obligations.

As progress payments are made to the Contractor in accordance with Article 109.07 of the Standard Specifications for Road and Bridge Construction, the Contractor shall make a corresponding partial payment within 15 calendar days to each subcontractor in proportion to the work satisfactorily completed by each subcontractor. The proportionate amount of partial payment due to each subcontractor shall be determined by the quantities measured or otherwise determined as eligible for payment by the Department and included in the progress payment to the Contractor. Subcontractors shall be paid in full within 15 calendar days after the subcontractor's work has been satisfactorily completed. The Contractor shall hold no retainage from the subcontractors.

This Special Provision does not create any rights in favor of any subcontractor against the State of Illinois or authorize any cause of action against the State of Illinois on account of any payment, nonpayment, delayed payment or interest claimed by application of the State Prompt Payment Act. The Department will neither determine the reasonableness of any cause for delay of payment nor enforce any claim to payment, including interest. Moreover, the Department will not approve any delay or postponement of the 15 day requirement. State law creates remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly performed or material furnished. These remedies are a lien against public funds set forth in Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c), and a recovery on the Contractor's payment bond in accordance with the Public Construction Bond Act, 30 ILCS 550.

Partial Payments

Effective: September 1, 2003

Revise Article 109.07 of the Standard Specifications to read:

"**109.07 Partial Payments.** Partial payments will be made as follows:

(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the amount of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than $1000.00 will be approved for payment other than the final payment.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved. Furthermore, progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics Lien Act, 770 ILCS 60/23(c).

(b) Material Allowances. At the discretion of the Department, payment may be made for materials, prior to their use in the work, when satisfactory evidence is presented by the Contractor. Satisfactory evidence includes justification for the allowance (to expedite the work, meet project schedules, regional or national material shortages, etc.), documentation of material and transportation costs, and evidence that such material is properly stored on the project or at a secure location acceptable and accessible to the Department.

Material allowances will be considered only for nonperishable materials when the cost, including transportation, exceeds $10,000 and such materials are not expected to be utilized within 60 days of the request for the allowance. For contracts valued under $500,000, the minimum $10,000 requirement may be met by combining the principal (material) product of no more than two contract items. An exception to this two item limitation may be considered for any contract regardless of value for items in which material (products) are similar except for type and/or size.

Material allowances shall not exceed the value of the contract items in which used and shall not include the cost of installation or related markups. Amounts paid by the Department for material allowances will be deducted from estimates due the Contractor as the material is used. Two-sided copies of the Contractor's cancelled checks for materials and transportation must be furnished to the Department within 60 days of payment of the allowances or the amounts will be reclaimed by the Department."

TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: April 1, 1992
Revised: January 1, 2003

To ensure a prompt response to incidents involving the integrity of work zone traffic control, the Contractor shall provide a telephone number where a responsible individual can be contacted 24 hours-a-day.

When the Engineer is notified, or determines a traffic control deficiency exists, he/she will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 12 hours based upon the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge.

The deficiency may be any lack of repair, maintenance or non-compliance with the traffic control plan.

If the Contractor fails to correct the deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be either $1,000 or 0.05 percent of the awarded contract value, whichever is greater.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of his/her contractual requirements or responsibilities.

Weight Control Deficiency Deduction

Effective: April 1, 2001
Revised: August 1, 2002

The Contractor shall provide accurate weights of materials delivered to the contract for incorporation into the work (whether temporary or permanent) and for which the basis of payment is by weight. These weights shall be documented on delivery tickets which shall identify the source of the material, type of material, the date and time the material was loaded, the contract number, the net weight, the tare weight when applicable and the identification of the transporting vehicle. For aggregates, the Contractor shall have the driver of the vehicle furnish or establish an acceptable alternative to provide the contract number and a copy of the material order to the source for each load. The source is defined as that facility that produces the final material product that is to be incorporated into the contract pay items.

The Department will conduct random, independent vehicle weight checks for material sources according to the procedures outlined in the Documentation Section Policy Statement of the Department's Construction Manual and hereby incorporated by reference. The results of the independent weight checks shall be applicable to all contracts containing this Special Provision. Should the vehicle weight check for a source result in the net weight of material on the vehicle exceeding the net weight of material shown on the delivery ticket by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. No adjustment in pay quantity will be made. Should the vehicle weight check for a source result in the net weight of material shown on the delivery ticket exceeding the net weight of material on the vehicle by 0.50% (0.70% for aggregates) or more, the Engineer will document the independent vehicle weight check and immediately furnish a copy of the results to the Contractor. The Engineer will adjust the net weight shown on the delivery ticket to the checked delivered net weight as determined by the independent vehicle weight check.

The Engineer will also adjust the method of measurement for all contracts for subsequent deliveries of all materials from the source based on the independent weight check. The net weight of all materials delivered to all contracts containing this Special Provision from this source, for which the basis of payment is by weight, will be adjusted by applying a correction factor "A" as determined by the following formula:

$$A = 1.0 - \left(\frac{B-C}{B}\right); \text{ Where } A \le 1.0; \left(\frac{B-C}{C}\right) > 0.50\% \text{ (0.70\% for aggregates)}$$

Where A = Adjustment factor
B = Net weight shown on delivery ticket
C = Net weight determined from independent weight check

The adjustment factor will be applied as follows:

Adjusted Net Weight = A x Delivery Ticket Net Weight

The adjustment factor will be imposed until the cause of the deficient weight is identified and corrected by the Contractor to the satisfaction of the Engineer. If the cause of the deficient weight is not identified and corrected within seven (7) calendar days, the source shall cease delivery of all materials to all contracts containing this Special Provision for which the basis of payment is by weight.

Should the Contractor elect to challenge the results of the independent weight check, the Engineer will continue to document the weight of material for which the adjustment factor would be applied. However, provided the Contractor furnishes the Engineer with written documentation that the source scale has been calibrated within seven (7) calendar days after the date of the independent weight check, adjustments in the weight of material paid for will not be applied unless the scale calibration demonstrates that the source scale was not within the specified Department of Agriculture tolerance.

At the Contractor's option, the vehicle may be weighed on a second independent Department of Agriculture certified scale to verify the accuracy of the scale used for the independent weight check.

Erosion and Sediment Control Deficiency Deduction

Effective: August 1, 2001
Revised: November 1, 2001

When the Engineer is notified or determines an erosion and/or sediment control deficiency(s) exists, he/she will direct the Contractor in writing to correct the deficiency. The Contractor shall then correct the deficiency within 24 hours. The deficiency may be any lack of repair, maintenance, or implementation of erosion and/or sediment control devices included in the contract, or any failure to comply with the conditions of the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for Construction Site Activities.

If the Contractor fails to correct the deficiency(s) within 24 hours, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The time period will begin with the initial written notification to the Contractor and end with the Engineer's acceptance of the corrected work. The per calendar day deduction will be either $1000.00 or 0.05 percent of the awarded contract value, whichever is greater.

If the Contractor fails to respond, the Engineer may correct the deficiencies and deduct the cost from monies due or which may become due the Contractor. This corrective action shall in no way relieve the Contractor of his/her contractual requirements or responsibilities.

Subgrade Preparation

Effective: November 1, 2002

Revise the tenth paragraph of Article 301.03 of the Standard Specifications to read:

"Equipment of such weight, or used in such a way as to cause a rut in the finished subgrade of 13 mm (1/2 in.) or more in depth, shall be removed from the work or the rutting otherwise prevented."

Superpave Bituminous Concrete Mixtures

Effective: January 1, 2000
Revised: January 1, 2004

Description. This work shall consist of designing, producing and constructing Superpave bituminous concrete mixtures using Illinois Modified Strategic Highway Research Program (SHRP) Superpave criteria. This work shall be according to Sections 406 and 407 of the Standard Specifications and the special provision, "Quality Control/Quality Assurance of Bituminous Concrete Mixtures", except as follows.

Materials.

(a) Fine Aggregate Blend Requirement. The Contractor may be required to provide FA 20 manufactured sand to meet the design requirements. For mixtures with Ndesign $\geq$ 90, at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag sand meeting the FA/FM 20 gradation.

(b) Reclaimed Asphalt Pavement (RAP). If the Contractor is allowed to use more than 15 percent RAP, as specified in the plans, a softer performance-graded binder may be required as determined by the Engineer.

RAP shall meet the requirements of the special provision, "RAP for Use in Bituminous Concrete Mixtures".

RAP will not be permitted in mixtures containing polymer modifiers.

RAP containing steel slag will be permitted for use in top-lift surface mixtures only.

(c) Bituminous Material. The asphalt cement (AC) shall be performance-graded (PG) or polymer modified performance-graded (SBS-PG or SBR-PG) meeting the requirements of Article 1009.05 of the Standard Specifications for the grade specified on the plans.

The following additional guidelines shall be used if a polymer modified asphalt is specified:

(1) The polymer modified asphalt cement shall be shipped, maintained, and stored at the mix plant according to the manufacturer's requirements. Polymer modified asphalt cement shall be placed in an empty tank and shall not be blended with other asphalt cements.

(2) The mixture shall be designed using a mixing temperature of 163 $\pm$ 3 °C (325 $\pm$ 5 °F) and a gyratory compaction temperature of 152 $\pm$ 3 °C (305 $\pm$ 5 °F).

(3) Pneumatic-tired rollers will not be allowed unless otherwise specified by the Engineer. A vibratory roller meeting the requirements of Article 406.16 of the Standard Specifications shall be required in the absence of the pneumatic-tired roller.

(4) A manufacturer's representative from the polymer asphalt cement producer shall be present during each polymer mixture start-up and shall be available at all times during production and lay-down of the mix.

Laboratory Equipment.

(a) Superpave Gyratory Compactor. The superpave gyratory compactor (SGC) shall be used for all QC/QA testing.

(b) Ignition Oven. The ignition oven shall be used to determine the AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

Mixture Design. The Contractor shall submit mix designs, for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed the course, "Superpave Mix Design Upgrade". Articles 406.10 and 406.13 of the Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

AASHTO MP 2	Standard Specification for Superpave Volumetric Mix Design
AASHTO PP 2	Standard Practice for Short and Long Term Aging of Hot Mix Asphalt (HMA)
AASHTO PP 19	Standard Practice for Volumetric Analysis of Compacted Hot Mix Asphalt (HMA)
AASHTO PP 28	Standard Practice for Designing Superpave HMA
AASHTO T 209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
AASHTO T 312	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
AASHTO T 308	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Mixture Composition. The ingredients of the bituminous mixture shall be combined in such proportions as to produce a mixture conforming to the composition limits by weight. The gradation mixture specified on the plans shall produce a mixture falling within the limits specified in Table 1.

TABLE 1. MIXTURE COMPOSITION (% PASSING)[1/]								
Sieve Size	IL-25.0 mm		IL-19.0 mm		IL-12.5 mm[4/]		IL-9.5 mm[4/]	
	min	max	min	max	min	max	min	max
37.5 mm (1 1/2 in.)		100						
25 mm (1 in.)	90	100		100				
19 mm (3/4 in.)		90	82	100		100		
12.5 mm (1/2 in.)	45	75	50	85	90	100		100
9.5 mm (3/8 in.)						90	90	100
4.75 mm (#4)	24	42[2/]	24	50[2/]	24	65	24	65
2.36 mm (#8)	16	31	16	36	16	48[3/]	16	48[3/]
1.18 mm (#16)	10	22	10	25	10	32	10	32
600 µm (#30)								
300 µm (#50)	4	12	4	12	4	15	4	15
150 µm (#100)	3	9	3	9	3	10	3	10
75 µm (#200)	3	6	3	6	4	6	4	6

1/ Based on percent of total aggregate weight.

2/ The mixture composition shall not exceed 40 percent passing the 4.75 mm (#4) sieve for binder courses with Ndesign ≥ 90.

3/ The mixture composition shall not exceed 40 percent passing the 2.36 mm (#8) sieve for surface courses with Ndesign ≥ 90.

4/ The mixture composition for surface courses shall be according to IL-12.5 mm or IL-9.5 mm, unless otherwise specified by the Engineer.

One of the above gradations shall be used for leveling binder as specified in the plans and according to Article 406.04 of the Standard Specifications.

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Dust/AC Ratio for Superpave. The ratio of material passing the 75 µm (#200) sieve to total asphalt cement shall not exceed 1.0 for mixture design (based on total weight of mixture).

(c) Volumetric Requirements. The target value for the air voids of the hot mix asphalt (HMA) shall be 4.0 percent at the design number of gyrations. The VMA and VFA of the HMA design shall be based on the nominal maximum size of the aggregate in the mix and shall conform to the requirements listed in Table 2.

TABLE 2. VOLUMETRIC REQUIREMENTS					
	Voids in the Mineral Aggregate (VMA), % minimum				Voids Filled with Asphalt (VFA), %
Ndesign	IL-25.0	IL-19.0	IL-12.5	IL-9.5	
50	12.0	13.0	14.0	15	65 - 78
70					65 - 75
90					
105					

(d) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination will be made on the basis of tests performed according to Illinois Modified T 283 using 4 in. Marshall bricks. To be considered acceptable by the Department as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSRs less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Department. The method of application shall be according to Article 406.12 of the Standard Specifications.

Personnel. The QC Manager and Level I Technician shall have successfully completed the Department's "Superpave Field Control Course".

Required Plant Tests. Testing shall be conducted to control the production of the bituminous mixture. The Contractor shall use the test methods identified to perform the following mixture tests at a frequency not less than that indicated in Table 3.

TABLE 3. REQUIRED PLANT TESTS for SUPERPAVE			
Parameter		**Frequency of Tests**	**Test Method**
Asphalt Content by Ignition Oven		1 per half day of production	Illinois Modified AASHTO T 308
Air Voids	Bulk Specific Gravity of Gyratory Sample	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	Illinois Modified AASHTO T 312
	Maximum Specific Gravity of Mixture		Illinois Modified AASHTO T 209

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.2 and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of the mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resuming production.

During production, mixtures containing an anti-stripping additive will be tested by the Department for stripping according to Illinois Modified T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

Construction Requirements

Lift Thickness.

(a) Binder and Surface Courses. The minimum compacted lift thickness for constructing bituminous concrete binder and surface courses shall be according to Table 4:

TABLE 4 – MINIMUM COMPACTED LIFT THICKNESS	
Mixture	Thickness, mm (in.)
IL-9.5	32 (1 1/4)
IL-12.5	38 (1 1/2)
IL-19.0	57 (2 1/4)
IL-25.0	76 (3)

(b) Leveling Binder. Mixtures used for leveling binder shall be as follows:

TABLE 5 – LEVELING BINDER	
Nominal, Compacted, Leveling Binder Thickness, mm (in.)	Mixture
≤ 32 (1 1/4)	IL-9.5
32 (1 1/4) to 50 (2)	IL 9.5 or IL-12.5

Density requirements shall apply for leveling binder when the nominal, compacted thickness is 32 mm (1 1/4 in.) or greater for IL-9.5 mixtures and 38 mm (1 1/2 in.) or greater for IL-12.5 mixtures.

(c) Full-Depth Pavement. The compacted thickness of the initial lift of binder course shall be 100 mm (4 in.). The compacted thickness of succeeding lifts shall meet the minimums specified in Table 4 but not exceed 100 mm (4 in.).

If a vibratory roller is used for breakdown, the compacted thickness of the binder lifts, excluding the top lift, may be increased to 150 mm (6 in.) provided the required density is obtained.

(d) Bituminous Patching. The minimum compacted lift thickness for constructing bituminous patches shall be according to Table 4.

Control Charts/Limits. Control charts/limits shall be according to QC/QA Class I requirements, except density shall be plotted on the control charts within the following control limits:

TABLE 6. DENSITY CONTROL LIMITS	
Parameter	**Individual Test**
Ndesign ≥ 90	92.0 - 96.0%
Ndesign < 90	93 - 97%

Basis of Payment. On resurfacing projects, this work will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, of the friction aggregate mixture and Ndesign specified, LEVELING BINDER (HAND METHOD), SUPERPAVE, of the Ndesign specified, LEVELING BINDER (MACHINE METHOD), SUPERPAVE, of the Ndesign specified, and BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition and Ndesign specified.

On resurfacing projects in which polymer modifiers are required, this work will be paid for at the contract unit price per metric ton (ton) for POLYMERIZED BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, of the friction aggregate mixture and Ndesign specified, POLYMERIZED LEVELING BINDER (HAND METHOD), SUPERPAVE, of the Ndesign specified, POLYMERIZED LEVELING BINDER (MACHINE METHOD), SUPERPAVE, of the Ndesign specified, and POLYMERIZED BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition and Ndesign specified.

On full-depth pavement projects, this work will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE PAVEMENT, (FULL-DEPTH), SUPERPAVE, of the thickness specified.

On projects where widening is constructed and the entire pavement is then resurfaced, the binder for the widening will be paid for at the contract unit price per square meter (square yard) for BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, of the mixture composition, Ndesign, and thickness specified. The surface and binder used to resurface the entire pavement will be paid for according to the paragraphs above for resurfacing projects.

RAP for Use in Bituminous Concrete Mixtures

Effective: January 1, 2000
Revised: April 1, 2002

Revise Article 1004.07 to read:

"**1004.07 RAP Materials.** RAP is reclaimed asphalt pavement resulting from cold milling or crushing of an existing dense graded hot-mix asphalt pavement. RAP must originate from routes or airfields under federal, state or local agency jurisdiction. The Contractor shall supply documentation that the RAP meets these requirements.

(a) Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP will be allowed on top of the pile after the pile has been sealed.

(1) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only and represent the same aggregate quality, but shall be at least C quality or better, the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag), similar gradation and similar AC content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogenous", with a quality rating dictated by the lowest coarse aggregate quality present in the mixture. Homogenous stockpiles shall meet the requirements of Article 1004.07(d). Homogeneous RAP stockpiles not meeting these requirements may be processed (crushing and screening) and retested.

(2) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I/ Superpave, or equivalent mixtures only. The coarse aggregate in this RAP shall be crushed aggregate only and may represent more than one aggregate type and/or quality but shall be at least C quality or better. This RAP may have an inconsistent gradation and/or asphalt cement content prior to processing. All conglomerate RAP shall be processed prior to testing by crushing to where all RAP shall pass the 16 mm (5/8 in.) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate RAP stockpiles shall meet the requirements of Article 1004.07(d).

(3) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP containing coarse aggregate (crushed or round) that is at least D quality or better. This RAP may have an inconsistent gradation and/or asphalt content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department. Conglomerate DQ RAP shall meet the requirements of Article 1004.07(d).

Reclaimed Superpave Low ESAL IL-9.5L surface mixtures shall only be placed in conglomerate DQ RAP stockpiles due to the potential for rounded aggregate.

(4) Other. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Other". "Other" RAP stockpiles shall not be used in any of the Department's bituminous mixtures.

(b) Use. The allowable use of a RAP stockpile shall be set by the lowest quality of coarse aggregate in the RAP stockpile. Class I/Superpave surface mixtures are designated as containing Class B quality coarse aggregate only. Superpave Low ESAL IL-19.0L binder and IL-9.5L surface mixtures are designated as Class C quality coarse aggregate only. Class I/Superpave binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate only. Bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate only. Any mixture not listed above shall have the designated quality determined by the Department.

RAP containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in Class I/Superpave (including Low ESAL) surface mixtures only. RAP stockpiles for use in Class I/Superpave mixtures (including Low ESAL), base course, base course widening and Class B mixtures shall be either homogeneous or conglomerate RAP stockpiles except conglomerate RAP stockpiles shall not be used in Superpave surface mixture Ndesign 50 or greater. RAP for use in bituminous aggregate mixtures (BAM) shoulders and BAM stabilized subbase shall be from homogeneous, conglomerate, or conglomerate DQ stockpiles.

Additionally, RAP used in Class I/Superpave surface mixtures shall originate from milled or crushed mixtures only, in which the coarse aggregate is of Class B quality or better. RAP stockpiles for use in Class I/Superpave (including Low ESAL) binder mixes as well as base course, base course widening and Class B mixtures shall originate from milled or processed surface mixture, binder mixture, or a combination of both mixtures uniformly blended to the satisfaction of the Engineer, in which the coarse aggregate is of Class C quality or better.

(c) Contaminants. RAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

(d) Testing. All RAP shall be sampled and tested either during or after stockpiling.

For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 450 metric tons (500 tons) for the first 1800 metric tons (2,000 tons) and one sample per 1800 metric tons (2,000 tons) thereafter. A minimum of five tests shall be required for stockpiles less than 3600 metric tons (4,000 tons).

For testing existing stockpiles, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to extract representative samples throughout the pile for testing.

Before extraction, each field sample shall be split to test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

All of the extraction results shall be compiled and averaged for asphalt content and gradation. Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	Homogeneous / Conglomerate	Conglomerate "D" Quality
25 mm (1 in.)		± 5%
12.5 mm (1/2 in.)	± 8%	± 15%
4.75 mm (No. 4)	± 6%	± 13%
2.36 mm (No. 8)	± 5%	
1.18 mm (No. 16)		± 15%
600 µm (No. 30)	± 5%	
75 µm (No. 200)	± 2.0%	± 4.0%
AC	± 0.4%	± 0.5%

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt content test results fall outside the appropriate tolerances, the RAP will not be allowed to be used in the Department's bituminous concrete mixtures unless the RAP representing the failing tests is removed from the stockpile to the satisfaction of the Engineer. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

(e) Designs. At the Contractor's option, bituminous concrete mixtures may be constructed utilizing RAP material meeting the above detailed requirements. The amount of RAP included in the mixture shall not exceed the percentages specified in the plans.

RAP designs shall be submitted for volumetric verification. If additional RAP stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP stockpile and design, and meets all of the requirements herein, the additional RAP stockpiles may be used in the original mix design at the percent previously verified.

(f) Production. The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the bituminous mixture being produced.

To remove or reduce agglomerated material, a scalping screen, crushing unit or comparable sizing device approved by the Engineer shall be used in the RAP feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

If the RAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP and either switch to the virgin aggregate design or submit a new RAP design.

Bituminous Concrete Surface Course

Effective: April 1, 2001
Revised: April 1, 2003

Replace the fourth paragraph of Article 406.23(b) of the Standard Specifications with the following:

"Mixture for cracks, joints, flangeways, leveling binder (machine method), leveling binder (hand method) and binder course in excess of 103 percent of the quantity specified by the Engineer will not be measured for payment.

Surface course mixture in excess of 103 percent of adjusted plan quantity will not be measured for payment. The adjusted plan quantity for surface course mixtures will be calculated as follows:

Adjusted Plan Quantity = C x quantity shown on the plans or as specified by the Engineer.

where C = metric: $C = \frac{G_{mb} \times 24.99}{U}$ English: $C = \frac{G_{mb} \times 46.8}{U}$

and where:

G_{mb} = average bulk specific gravity from approved mix design.
U = Unit weight of surface course shown on the plans in kg/sq m/25 mm (lb/sq yd/in.), used to estimate plan quantity.
24.99 = metric constant.
46.8 = English constant.

If project circumstances warrant a new surface course mix design, the above equations shall be used to calculate the adjusted plan quantity for each mix design using its respective average bulk specific gravity."

Coarse Aggregate for Trench Backfill, Backfill and Bedding

Effective: April 1, 2001
Revised: November 1, 2003

Revise Article 208.02 of the Standard Specifications to read:

"**208.02 Materials.** Materials shall be according to the following Articles of Section 1000 – Materials:

(a) Fine Aggregate (Note 1) 1003.04
(b) Coarse Aggregate (Note 2) 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first sentence of the second paragraph of subparagraph (b) in Article 208.03 of the Standard Specifications to read:

"Any material meeting the requirements of Articles 1003.04 or 1004.06 which has been excavated from the trenches shall be used for backfilling the trenches."

Add the following to the end of Article 542.02 of the Standard Specifications:

"(bb) Fine Aggregate (Note 1) 1003.04
(cc) Coarse Aggregate (Note 2) 1004.06

Note 1. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 2. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first and second sentences of the second paragraph of subparagraph (a) of Article 542.04 of the Standard Specifications to read:

"The unstable and unsuitable material shall be removed to a depth determined by the Engineer and for a width of one diameter (or equivalent diameter) of the pipe on each side of the pipe culvert, and replaced with aggregate. Rock shall be removed to an elevation 300 mm (1 ft) lower than the bottom of the pipe or to a depth equal to 40 mm/m (1/2 in./ft) of ultimate fill height over the top of the pipe culvert, whichever is the greater depth, and for a width as specified in (b) below, and replaced with aggregate."

Revise the second paragraph of subparagraph (c) of Article 542.04 of the Standard Specifications to read:

"Well compacted aggregate, at least 100 mm (4 in.) in depth below the pipe culvert, shall be placed the entire width of the trench and for the length of the pipe culvert, except well compacted impervious material shall be used for the outer 1 m (3 ft) at each end of the pipe.

When the trench has been widened by the removal and replacement of unstable or unsuitable material, the foundation material shall be placed for a width not less than the above specified widths on each side of the pipe. The aggregate and impervious material shall be approved by the Engineer and shall be compacted to the Engineer's satisfaction by mechanical means."

Revise subparagraph (e) of Article 542.04 of the Standard Specifications to read:

"(e) Backfilling. As soon as the condition of the pipe culvert will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe culvert, except at the outer 1 m (3 ft) at each end of the culvert which shall be backfilled with impervious material. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate and impervious material shall be placed in 200 mm (8 in.) layers, loose measurement. When using PVC, PE, or corrugated metal pipe, the aggregate shall be continued to a height of at least 300 mm (1 ft) above the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means. When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

When using PVC, PE, or corrugated metal pipe a minimum of 300 mm (1 ft) of cover from the top of the pipe to the top of the subgrade will be required.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench shall be backfilled with select material, from excavation or borrow, free from large or frozen lumps, clods or rock, meeting the approval of the Engineer. The material shall be placed in layers not exceeding 200 mm (8 in.) in depth, loose measurement and compacted to 95 percent of the standard laboratory density. Compaction shall be obtained by use of mechanical tampers or with approved vibratory compactors. Before compacting, each layer shall be wetted or dried to bring the moisture content within the limits of 80 to 110 percent of optimum moisture content determined according to AASHTO T 99 (Method C). All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the culvert. The filling of the trench shall be carried on simultaneously on both sides of the pipe. The Contractor may, at his/her expense, backfill the entire trench with aggregate in lieu of select material. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means.

The backfill material for all trenches and excavations made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk shall be according to Section 208. The trench backfill material shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When the trench has been widened for the removal and replacement of unstable or unsuitable material, the backfilling with aggregate and impervious material, will be required for a width of at least the specified widths on each side of the pipe. The remaining width of each layer may be

backfilled with select material. Each 200 mm (8 in.) layer for the entire trench width shall be completed before beginning the placement of the next layer."

Revise subparagraph (b) of Article 542.05 of the Standard Specifications to read:

"(b) Embankment. Embankment extending to an elevation of 300 mm (1 ft) over the top of the pipe shall be constructed according to Article 542.04(f), except the material up to the elevation of the center of the pipe and extending to a width of at least 450 mm (18 in.) on each side of the pipe, exclusive of the outer 1 m (3 ft) at each end of the pipe, shall consist of aggregate. At the outer 1 m (3 ft) at each end of the culvert, impervious material shall be used."

Add the following paragraph after the first paragraph of Article 542.10 of the Standard Specifications:

"Trench backfill will be measured for payment according to Article 208.03."

Add the following paragraph after the third paragraph of Article 542.11 of the Standard Specifications:

"Trench backfill will be paid for according to Article 208.04."

Add the following to of Article 550.02 of the Standard Specifications:

"(m) Fine Aggregate (Note 2) 1003.04
(n) Coarse Aggregate (Note 3) 1004.06

Note 2. The fine aggregate shall be moist to the satisfaction of the Engineer.

Note 3. The coarse aggregate shall be wet to the satisfaction of the Engineer."

Revise the first two sentences of the third paragraph of Article 550.04 of the Standard Specifications to read:

"Well compacted, aggregate bedding material at least 100 mm (4 in.) in depth below the pipe, shall be placed for the entire width of the trench and length of the pipe. The aggregate shall be compacted to the satisfaction of the Engineer by mechanical means."

Revise Article 550.07 of the Standard Specifications to read:

"**550.07 Backfilling.** As soon as the condition of the pipe will permit, the entire width of the trench shall be backfilled with aggregate to a height of at least the elevation of the center of the pipe. The aggregate shall be placed longitudinally along the pipe. The elevation of the backfill material on each side of the pipe shall be the same. The space under the pipe shall be completely filled. The aggregate backfill material shall be placed in 200 mm (8 in.) layers, loose measurement and compacted to the satisfaction of the Engineer by mechanical means. When using PVC pipe, the aggregate shall be continued to a height of at least 300 mm (12 in.) above the top of the pipe.

The installed pipe and its embedment shall not be disturbed when using movable trench boxes and shields, sheet pile, or other trench protection.

The remainder of the trench and excavation shall be backfilled to the natural line or finished surface as rapidly as the condition of the sewer will permit. The backfill material shall consist of suitable excavated material from the trench or of trench backfill as herein specified. All backfill material shall be deposited in the trench or excavation in such a manner as not to damage the sewer and shall be compacted to the satisfaction of the Engineer by mechanical means. The filling of the trench shall be carried on simultaneously on both sides of the pipe.

The backfill material for trenches and excavation made in the subgrade of the proposed improvement, and for all trenches outside of the subgrade where the inner edge of the trench is within 600 mm (2 ft) of the edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk shall be according to Section 208. The backfill material shall be compacted to 85 percent of standard lab density by mechanical means.

All backfill material up to a height of 300 mm (1 ft) above the pipe shall be deposited in uniform layers not exceeding 200 mm (8 in.) thick, loose measurement. The material in each layer shall be compacted to the satisfaction of the Engineer by mechanical means. The backfilling above this height shall be done according to Method 1, 2 or 3 as described below, with the following exceptions.

When trench backfill or excavated material meeting the requirements of Section 208 is required above the first 300 mm (1 ft) of the pipe, the layers shall not exceed 200 mm (8 in.). Gradations CA6 or CA10 shall not be used with Method 2 or Method 3.

Method 1. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be compacted to the satisfaction of the Engineer by mechanical means.

Method 2. The material shall be deposited in uniform layers not exceeding 300 mm (1 ft) thick, loose measurement, and each layer shall be either inundated or deposited in water.

Method 3. The trench shall be backfilled with loose material, and settlement secured by introducing water through holes jetted into the backfill to a point approximately 600 mm (2 ft) above the top of the pipe. The holes shall be spaced as directed by the Engineer but shall be no farther than 2 m (6 ft) apart.

The water shall be injected at a pressure just sufficient to sink the holes at a moderate rate of speed. The pressure shall be such that the water will not cut cavities in the backfill material nor overflow the surface. If water does overflow the surface, it shall be drained into the jetted holes by means of shallow trenches.

Water shall be injected as long as it will be absorbed by the backfill material and until samples taken from test holes in the trench show a satisfactory moisture content. The Contractor shall bore the test holes not more than 15 m (50 ft) apart and at such other locations in the trench designated by the Engineer. As soon as the watersoaking has been completed, all holes shall be filled with soil and compacted by ramming with a tool approved by the Engineer.

Backfill material which has been watersoaked shall be allowed to settle and dry for at least 10 days before any surface course or pavement is constructed on it. The length of time may be altered, if deemed desirable, by the Engineer. Where the inner edge of the trench is within 600 mm (2 ft) of the

edge of the proposed pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk, the provisions of this paragraph shall also apply.

At the end of the settling and drying period, the crusted top of the backfill material shall be scarified and, if necessary, sufficient backfill material added, as specified in Method 1, to complete the backfilling operations.

The method used for backfilling and compacting the backfill material shall be the choice of the Contractor. If the method used does not produce results satisfactory to the Engineer, the Contractor will be required to alter or change the method being used so the resultant backfill will be satisfactory to the Engineer. Should the Contractor be required to alter or change the method being used, no additional compensation will be allowed for altering or changing the method.

The Contractor may, at his/her expense, backfill the entire trench with controlled low strength material meeting the approval of the Engineer.

When sheeting and bracing have been used, sufficient bracing shall be left across the trench as the backfilling progresses to hold the sides firmly in place without caving or settlement. This bracing shall be removed as soon as practicable. Any depressions which may develop within the area involved in the construction operation due to settlement of the backfilling material shall be filled in a manner approved by the Engineer.

When the Contractor constructs the trench with sloped or benched sides according to Article 550.04, backfilling for the full width of the excavation shall be as specified, except no additional compensation will be allowed for trench backfill material required outside the vertical limits of the specified trench width.

Whenever excavation is made for installing sewer pipe across earth shoulders or private property, the topsoil disturbed by excavation operations shall be replaced as nearly as possible in its original position, and the whole area involved in the construction operations shall be left in a neat and presentable condition.

When using any PVC pipe, the pipe shall be backfilled with aggregate to 300 mm (1 ft) over the top of the pipe and compacted to a minimum of 85 percent of standard lab density by mechanical means.

When reinforced concrete pipes are used and the trench is within 600 mm (2 ft) of the pavement structure, the backfill shall be compacted to a minimum of 85 percent of standard lab density by mechanical means.

Deflection Testing for Storm Sewers. All PVC storm sewers will be tested for deflection not less than 30 days after the pipe is installed and the backfill compacted.

For PVC storm sewers with diameters 600 mm (24 in.) or smaller, a mandrel drag shall be used for deflection testing. For PVC storm sewers with diameters over 600 mm (24 in.), deflection measurements other than by a mandrel drag shall be used.

Where the mandrel is used, the mandrel shall be furnished by the Contractor and pulled by hand through the pipeline with a suitable rope or cable connected to each end. Winching or other means of forcing the deflection gauge through the pipeline will not be allowed.

The mandrel shall be of a shape similar to that of a true circle enabling the gauge to pass through a satisfactory pipeline with little or no resistance. The mandrel shall be of a design to prevent it from

tipping from side to side and to prevent debris build-up from occurring between the channels of the adjacent fins or legs during operation. Each end of the core of the mandrel shall have fasteners to which the pulling cables can be attached. The mandrel shall have 9, various sized fins or legs of appropriate dimension for various diameter pipes. Each fin or leg shall have a permanent marking that states its designated pipe size and percent of deflection allowable.

The outside diameter of the mandrel shall be 95 percent of the base inside diameter, where the base inside diameter is:

For all PVC pipe (as defined using ASTM D 3034 methodology):

If the pipe is found to have a deflection greater than specified, that pipe section shall be removed, replaced, and retested."

Revise subparagraph (c) of Article 1003.04 of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation shall be as follows:

Backfill, bedding and trench backfill for pipe culverts and storm sewers	FA 1, FA 2, FA 6, or FA 21
Porous granular embankment and backfill, french drains, and sand backfill for underdrains	FA 1, FA 2, or FA20 (Note 1)

Note 1: For FA 1, FA 2, and FA 20 the percent passing the 75 μm (No. 200) sieve shall be 2 ± 2."

Revise the title of Article 1004.06 of the Standard Specifications to read:

"Coarse Aggregate for Blotter, Embankment, Backfill, Trench Backfill, French Drains, and Bedding."

Add the following to the end of subparagraph (c) of Article 1004.06 of the Standard Specifications:

"Backfill, bedding, and trench backfill for pipe culverts and storm sewers	CA 6, CA 10, and CA 18"

Expansion Joints

Effective: August 1, 2003

Add the following paragraph after the second paragraph of Article 420.10(e) of the Standard Specifications:

"After the dowel bars are oiled, plastic expansion caps shall be secured to the bars maintaining a minimum expansion gap of 50 mm (2 in.) between the end of the bar and the end of the cap. The caps shall fit snuggly on the bar and the closed end shall be watertight. For expansion joints formed using dowel bar basket assemblies, the caps shall be installed on the alternating free ends of the bars. For expansion joints formed using a construction header, the caps shall be installed on the exposed end of each bar once the header has been removed and the joint filler material has been installed."

Curb Ramps for Sidewalk

Effective: January 1, 2004

Description. This work shall consist of constructing sidewalk curb ramps with detectable warnings in compliance with the Americans with Disabilities Act, Accessibility Guidelines (ADAAG). Work shall be according to Section 424 of the Standard Specifications except as modified herein.

The detectable warnings shall consist of an area of truncated domes that provide both visual and tactile cues to pedestrians who are about to enter into traffic. The warning area shall begin 150 mm (6 in.) from the back of the curb and continue 600 mm (2 ft) in the direction of pedestrian travel for the entire width of the walking surface.

The detectable warnings shall also present a contrast in color from the adjacent sidewalk. This shall be accomplished by constructing the warning area, plus the 150 mm (6 in.) area between the warning area and the back of curb, out of concrete that is integrally colored red. However if the sidewalk is brick or of some dark color, the contrast requirement shall be achieved with normal (grey), Class SI concrete.

Materials. Materials for the detectable warning area of the curb ramps shall meet the following requirements.

a) Integrally Colored Concrete. Integrally colored concrete shall be according to Section 1020 of the Standard Specification for Class SI concrete except as follows.

Article 1020.04	The allowable water/cement ratio range shall be 0.40 minimum to 0.44 maximum.
Article 1020.04	The allowable slump range shall be 75 mm (3 in.) minimum to 125 mm (5 in.) maximum.
Article 1020.04	The allowable coarse aggregate gradations shall be CA 11, CA 13, CA 14, and CA 16.
Article 1020.05(b)	A calcium chloride accelerating admixture shall not be used.
Article 1020.05(b)	The cement factor shall not be reduced if a water-reducing or high range water-reducing admixture is used.
Article 1020.05(c)	Fly ash shall not be used.
Article 1020.05(k)	Ground granulated blast-furnace slag shall not be used.
Article 1020.11	Pigment for integrally colored concrete shall be added to the concrete and mixed per the Manufacturer's recommendation.
Article 1020.13	The curing method shall be Type I membrane curing.
Article 1020.13.	The protection method shall be according to Article 1020.13(e)(1) and the protection period shall be 96 hours. No material, including

the insulating material, shall be placed in direct contact with the concrete surface.

(b) Pigment for Integrally Colored Concrete. The pigment shall meet the requirements of ASTM C 979, match color number 30166 of Federal Standard 595, and be on the Department's Approved List of Pigments for Integrally Colored Concrete.

(c) Release Agent for Concrete Stamping Tools. The release agent shall be according to the stamping tool manufacturer's recommendations and the following: it shall be a clear liquid that will evaporate, it shall not harm the concrete, and it shall allow the application of Type I membrane curing.

Equipment. Equipment for the detectable warning area of the curb ramps shall meet the following requirements.

(a) Concrete Stamps. Sufficient numbers and sizes of stamps shall be furnished to cover the various widths of the curb ramps. The stamps shall have an air opening at the top of each truncated dome recess; and shall be rigid enough to evenly distribute the force exerted during tamping.

(b) Tamper. The tamper shall be according to the concrete stamp manufacturer's recommendations.

CONSTRUCTION REQUIREMENTS

Stamping. The concrete shall be placed and finished according to Article 424.06 except the area to be stamped shall not be brushed. When the bleed water has been absorbed, stamping shall begin. The entire width of the curb ramp shall be stamped at the same time. A single stamp or a combination of stamps may be used.

Prior to placing the stamp on the concrete, the stamp shall be coated with the release agent. When recommended by the manufacturer, the release agent shall also be applied to the concrete surface. Once the stamp has been placed on the ramp, it shall remain down until the stamping is complete.

The entire area of the stamp shall be tamped with a short, slow, repetitive action such that the concrete is caused to move up and into the dome recesses of the stamp. Tamping shall continue until mortar has come through the air openings in the stamp. Stepping or walking on the stamp will not be allowed. The base elevation of the domes shall be even with the adjacent sidewalk surface; the stamp shall not be forced down into the concrete.

When stamping is complete, the stamp shall be removed and the concrete cured.

Upon completion of curing, or after cold weather protection if required, the protruding mortar tip on the top of each dome shall be removed and the dome rubbed or ground smooth.

Precast Concrete

Effective: July 1, 1999
Revised: January 1, 2002

Description. This special provision identifies non-prestressed, precast concrete products which shall be produced according to the Department's current, "Quality Control/Quality Assurance Program for Precast Concrete Products".

Products. The list of products is as follows:

Product Class	Precast Item
Box Culvert	Precast Concrete Box Culverts
Pipe	Reinforced Concrete Culvert, Storm Drain and Sewer Pipe
	Concrete Sewer, Storm Drain and Culvert Pipe
	Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
	Concrete Drain Tile
	Reinforced Concrete Arch Culvert, Storm Drain and Sewer Pipe
	Concrete Headwall for Pipe Drains
	Precast Reinforced Concrete Flared End Sections and Elliptical Flared End Sections
	Precast Reinforced Concrete Pipe Elbows, Tees and Collars
Structure	Precast Concrete Members
Block/Brick	Erosion Control: Concrete Block Riprap, Block Revetment Mat, and Articulated Block Mat
	Concrete Building Brick
	Concrete Masonry Units
Drainage Structure	Precast Reinforced Concrete Catch Basins, Manholes, Inlets, Miscellaneous Structures, Valve Vaults and Flat Slab Tops/Bottoms
Barrier	Concrete Barrier
	Temporary Concrete Barrier
Miscellaneous	Right of Way, Drainage, Section and Permanent Survey Markers, Bumper Blocks, Junction Boxes, and Handholes

For precast concrete products which are constructed according to AASHTO M 86, M 170, M 178, M 199, M 206, M 207, M 259, or M 273; portland or blended hydraulic cement shall be according to Article 1001.01 of the Standard Specifications, except the pozzolan constituent in the Type IP or Type I (PM) cement shall be fly ash. In addition, the minimum or maximum combination of a portland cement and a cementitious material shall be according to the AASHTO M specification. The cementitious material shall be according to Articles 1010.01, 1010.03, 1014.01, 1014.02, 1015.01, 1015.02, 1016.01 and 1016.02.

Acceptance. Products which have been lot or piece inspected and approved by the Department prior to July 1, 1999, will be accepted for use on this contract. Products produced on or after July 1, 1999, will be accepted only if produced according to the Department's current "Quality Control/Quality Assurance Program for Precast Concrete Products".

Adjusting Frames and Grates

Effective: August 1, 2001
Revised: November 1, 2001

Add the following to Article 602.02 of the Standard Specifications:

"(k) High Density Polyethylene (HDPE) Plastic ..... Note 2
(l) Recycled Rubber ..... Note 3

Note 2. HDPE plastic adjusting rings may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 75 mm (3 in.). They shall be installed and sealed underneath the frames according to the manufacturer's specifications.

HDPE plastic adjusting rings shall be manufactured from Class B HDPE plastic, as identified in ASTM D 1248, using the injection molding process. They shall be designed and tested to meet or exceed an HS25 wheel load according to the AASHTO Standard Specifications for Highway Bridges and shall be stabilized against the effects of ultra violet light.

Recycled material may be used. If recycled material is used, only polyethylene and less than two percent polypropylene will be allowed in the reclaim process. All feed stock shall be tested by the manufacturer on a procurement/production batch basis to verify the following property values:

Physical Property	Test Standard	Value
Melt Flow Index	ASTM D 1238	0.30 to 30.0 g/10 min (0.01 to 1.06 oz/10 min)
Specific Gravity	ASTM D 792	0.84 to 0.98
Tensile Strength, Yield	ASTM D 638	13,800 kPa (2000 psi) minimum

HDPE plastic adjusting rings shall have no void areas, cracks, or tears, and have no effects due to exposure to ultraviolet light. Ripples or sags are limited to less than ten percent of the surface. The actual diameter or length shall not vary more than 3 mm (0.125 in.) from the specified diameter or length. Variations in height are limited to ± 1.6 mm (0.063 in.) for parts up to 50 mm (2 in.) or ± 3 mm (0.125 in.) for parts from 50 mm (2 in.) to 75 mm (3 in.). Variations shall not exceed 6 mm (0.25 in.) from flat (dish, bow or convoluting edge) or 3 mm (0.125 in.) for bulges or dips in the surface.

Note 3. Riser rings fabricated from recycled rubber may be used to adjust the frames and grates of drainage and utility structures up to a maximum of 50 mm (2 in.). They shall be installed and sealed underneath the frames according to the manufacturer's specifications.

Recycled rubber products shall consist of no less than 80 percent by weight recycled rubber. The riser shall meet or exceed the following when maintained at 23 ± 2°C (73 ± 3°F) for at least 24 hours prior to and during testing.

Physical Property	Test Standard	Value
Density	ASTM C 642-90	1.10 ± 0.034 g/cu cm (68.63 ± 2.11 lb/cu ft)
Durometer Hardness	ASTM D 2240-97 Shore A	72 ± 6[1]
Compression Deformation under 1000 kPa (145 psi)	ASTM D 575 –Test Method B Test of Specified Force	9 ± 4 %
Compression Set	ASTM D 395 – Illinois Modified Test Method B Compression Set under Constant Deflection in Air	5 ± 3 %[2]
Weathering (70 hrs at 70 °C (158 °F)) Hardness retained	ASTM D 573	98 %, minimum
Freeze/thaw when exposed to deicing chemicals	ASTM C 672-91	3 % loss, maximum

[1]Average of three tests over a 28 mm (1.12 in.) diameter sample.

[2] Samples compressed to 75 percent of initial height.

Recycled rubber adjusting rings shall have no void areas, cracks, or tears, and have no effects due to exposure to ultraviolet light. The actual diameter or length shall not vary more than 3 mm (0.125 in.) from the specified diameter or length. Variations in height are limited to ± 1.6 mm (0.063 in.) for parts up to 50 mm (2 in.)."

Revise Article 603.08 of the Standard Specifications to read:

"**603.08 Adjusting Rings.** As an option to Articles 603.03 through 603.07, the adjustment of frames and grates may be accomplished through the use of adjusting rings that fit on top of the frame. These adjusting rings shall be fabricated as a one-piece assembly from gray iron, ductile iron or structural steel. They shall provide a structural capacity equal to or greater than the existing frame and shall not affect the opening size or surface appearance. The rings shall have a device for positively positioning and fastening the ring to the existing frame to prevent movement under traffic."

Driving Guardrail Posts

Effective: April 1, 1998

Add the following to the end of Article 630.06 of the Standard Specifications:

"When steel posts are used and the foreslopes are 1:3 or flatter, the Contractor may drive the posts with a vibratory hammer through the bituminous stabilization provided the posts are protected by a suitable driving cap. If disturbance and or damaged of the shoulder or slope occurs, the driving shall be discontinued and the posts shall be driven through holes cored in the shoulder."

Flagger Vests

Effective: April 1, 2003

Revise the first sentence of Article 701.04(c)(1) of the Standard Specifications to read:

"The flagger shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments and approved flagger traffic control signs conforming to Standard 702001 and Article 702.05(e)."

Revise Article 701.04(c)(6) of the Standard Specifications to read:

"(6) Nighttime Flagging. The flagger station shall be lit by additional overhead lighting other than streetlights. The flagger shall be equipped with a fluorescent orange or fluorescent orange and fluorescent yellow/green garment meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments."

Epoxy Coatings for Steel Reinforcement

Effective: April 1, 2003

Revise Article 1006.10(b)(2) of the Standard Specifications to read:

"(2) Epoxy Coated Reinforcement Bars. Epoxy coated reinforcement bars shall conform to the requirements of AASHTO M 284M (M 284), except:

a. The maximum thickness of epoxy coating on spiral reinforcement, coated after fabrication, shall be 0.5 mm (20 mils).

b. No more than eight of the holidays permitted shall be in any 300 mm (1 ft) of length for continuity of coating.

The epoxy coating applicator shall be certified under the Concrete Reinforcing Steel Institute's (CRSI) Epoxy Plant Certification Program.

The epoxy coater shall provide access for the Engineer at any time during production or shipping. Random bars may be checked at the epoxy coater's facility or the jobsite for coating uniformity, thickness and discontinuity; cracks on the bends; and other damaged areas. Upon request, the coater shall provide samples for testing by the Engineer.

Bars may be sheared or sawn to length after coating, provided end damage to coating does not extend more than 15 mm (1/2 in.) back and the cut end is patched before any visible oxidation appears. Flame cutting will not be permitted."

Add the following paragraph after the first paragraph of Article 1006.11(b) of the Standard Specifications:

"The epoxy coating applicator shall be certified under the Concrete Reinforcing Steel Institute's (CRSI) Epoxy Plant Certification Program."

Stone for Erosion Protection, Sediment Control, and Rockfill

Effective: January 1, 2004

Revise the first, second, and third sentences of Article 281.04(a) of the Standard Specifications to read:

"Class A1 bedding material shall be used with riprap Classes A4, A5, B4, and B5. Class A2 bedding material shall be used with riprap Classes A6, A7, B6, and B7. When filter fabric is used, the following substitutions of bedding material may be made: Quality B may be used in lieu of Quality A; Gradation CA 3 may be used in lieu of Gradation RR 1; and Gradation CA 1 may be used in lieu of Gradation RR 2."

Revise Article 1005.01 of the Standard Specifications to read:

"**1005.01 Stone for Erosion Protection, Sediment Control, and Rockfill.** The material will be sampled and inspected according to the Bureau of Materials and Physical Research's policy memorandum, "Inspection of Stone for Erosion Protection, Sediment Control, and Rockfill". The material shall meet the following requirements.

(a) Description. The material shall be stone, quarried from undisturbed, consolidated deposits (ledges) of rock reasonably free of shale and shaly stone. The ledges shall be sufficiently thick to produce the desired dimensions. The stone shall be reasonably free of laminations, seams, cracks, and other structural defects or imperfections tending to destroy its resistance to weather. Field stone or boulders will not be accepted.

Bedding material shall be crushed stone, crushed gravel, crushed sandstone, or crushed slag meeting the requirements of Article 1004.01(a).

(b) Quality. The stone shall meet the following quality requirements.

(1) Stone for Erosion Protection or Sediment Control. The material shall be quarried from ledges meeting the quality designations listed in the following table.

QUALITY OF STONE FOR EROSION PROTECTION AND SEDIMENT CONTROL		
QUALITY TEST	QUALITY A 2/ 3/ 4/	QUALITY B 2/
Na_2SO_4 Soundness 5 Cycle, AASHTO T 104 1/ Max. % Loss	15	25

1/ As modified by the Department.

2/ Elongated pieces (length is greater than five times the average thickness) shall not exceed ten percent by weight.

3/ The stone, when checked in a full gradation product, shall have a specific gravity (dry) greater than 2.450 as determined by the Department.

4/ The stone shall be reasonably free of chert.

In addition to the above quality requirements, crushed slag used as a bedding material shall also meet the Department's "Test for Leachate".

(2) Stone for Rockfill. The material shall be quarried from ledges consisting of sound, durable rock reasonably free of objectionable, deleterious material as determined by the Department.

(c) Gradation. The stone shall meet the following gradation requirements.

(1) Stone for Erosion Protection or Sediment Control. The material shall meet the gradation limits listed in the following tables. All gradations produced shall be well graded.

BEDDING MATERIAL GRADATIONS					
GRAD. NO.	Percent Passing Sieves				
	100 mm	75 mm	50 mm	37.5 mm	4.75 mm
RR 1		100		53±23	8±8
RR 2	100		53±23		8±8

BEDDING MATERIAL GRADATIONS (ENGLISH)					
GRAD. NO.	Percent Passing Sieves				
	4 in.	3 in.	2 in.	1 1/2 in.	No. 4
RR 1		100		53±23	8±8
RR 2	100		53±23		8±8

EROSION PROTECTION AND SEDIMENT CONTROL GRADATIONS														
Grad. No.	Percent Passing Rock Size (kg)													
	455[1/]	270[1/]	180[1/]	135	75	70[1/]	40	20[1/]	18	5	4	3	1	0.5
RR 3								100			50±20			8±8
RR 4						100			50±20					8±8
RR 5			100				50±20						8±8	
RR 6		100			50±20							8±8		
RR 7	100			50±20						8±8				

EROSION PROTECTION AND SEDIMENT CONTROL GRADATIONS														
Grad. No.	Percent Passing Rock Size (lb)													
	1000[1/]	600[1/]	400[1/]	300	170	150[1/]	90	50[1/]	40	12	10	6	3	1
RR 3								100			50±20			8±8
RR 4						100			50±20					8±8
RR 5			100				50±20						8±8	
RR 6		100			50±20							8±8		
RR 7	100			50±20						8±8				

1/ Five percent by weight may be oversize. Each oversize piece shall not exceed the maximum size of the gradation by more than 20 percent.

(2) Stone for Rockfill. The material may be shot rock, primary crusher run, or other specified gradations approved by the Department."

Hand Vibrator

Effective: November 1, 2003

Add the following paragraph to Article 1103.17(a) of the Standard Specifications:

"The vibrator shall have a non-metallic head for areas containing epoxy coated reinforcement. The head shall be coated by the manufacturer. The hardness of the non-metallic head shall be less than the epoxy coated reinforcement, resulting in no damage to the epoxy coating. Slip-on covers will not be allowed."

Working Days

Effective: January 1, 2002

The Contractor shall complete the work within 110 working days.

Light Emitting Diode (LED) Signal Head

Effective: April 1, 2002
Revised: August 1, 2003

Add the following paragraph to the end of Article 802.03 of the Standard Specifications:

"The warranty for light emitting diode (LED) modules, including the maintained minimum luminous intensities, shall cover a minimum of 60 months from the date of delivery."

Revise Article 880.01 of the Standard Specifications to read:

"**880.01 Description.** This work shall consist of furnishing and installing a conventional signal head, optically programmed signal head or light emitting diode (LED) signal head."

Revise Article 880.02(a) of the Standard Specifications to read:

"(a) Signal Heads.....1078.01"

Revise the first sentence of the first paragraph of Article 880.03 of the Standard Specifications to read:

"The signal head shall be installed on a post, bracket, span wire or mast arm as shown on the plans."

Revise the first paragraph of Article 880.04 of the Standard Specifications to read:

"**880.04 Basis of Payment.** This work will be paid for at the contract unit price each for SIGNAL HEAD, OPTICALLY PROGRAMMED SIGNAL HEAD, or SIGNAL HEAD, LED of the type specified and of the material type when specified."

Revise Article 1078.01 of the Standard Specifications to read:

"**1078.01 Signal Head, Optically Programmed Signal Head and Light Emitting Diode (LED) Signal Head.**"

Add the following to Article 1078.01(c) of the Standard Specifications:

"(3) The LED signal section shall be according to the following:

a. General Requirements. The LED signal head shall meet the requirements of the Institute of Transportation Engineers (ITE) interim LED purchase specification, "Vehicle Traffic Control Signal Heads, Part 2: LED Vehicle Traffic Signal Modules", or applicable successor ITE specifications, except as modified herein. The LEDs utilized in the modules shall not be Aluminum Gallium Arsenide (AlGaAs) material technology.

b. Physical and Mechanical Requirements. The power supply for the LED module shall be integrated with the unit.

c. Photometric Requirements. The candlepower values for yellow 300 mm (12 in.) circular modules shall be equal to the corresponding values for green 300 mm (12 in.) circular modules as listed in Table 1 of Section 4 of the aforementioned ITE specification based on normal use in traffic signal operation over the operating temperature range.

The illuminated portion of the arrow module shall be uniformly and completely dispersed with the LEDs.

d. Electrical Requirements. When applicable to the particular module type, the LED signal module shall be EPA Energy Star qualified. For yellow 300 mm (12 in.) circular and arrow modules, the wattage requirements shall be as follows:

Module Type	Maximum Watts (W) at 74 °C (165 °F)	Nominal Watts (W) at 25 °C (77 °F)
300 mm (12 in.) Yellow Circular	25	22
300 mm (12 in.) Yellow Arrow	12	10

The individual LEDs shall be wired such that a catastrophic loss or the failure of one LED will result in the loss of not more than 5 percent of the signal module light output.

e. Warranty. The LED modules shall be warrantied according to Article 802.03. The maintained minimum intensities for 300 mm (12 in.) arrow modules throughout the warranty period under the operating temperature and voltage range, and at the end of the warranty period shall not be less than the following values:

Module Type	Maintained Minimum Intensities (cd/sq m)
Red Arrow	5,000
Yellow Arrow	11,000
Green Arrow	11,000"

Furnished Excavation

Effective: August 1, 2002

Revise Article 204.07(b) of the Standard Specifications to read:

(b) Measured Quantities. Furnished excavation will be computed for payment in cubic meters (cubic yards) as follows:

Furnished Excavation = Embankment - [Suitable Excavation x (1 - Shrinkage Factor)]

Where:

Embankment = the volume of fill in its final position computed by the method of average end areas and based upon the existing ground line as shown on the plans except as noted in (1) and (2) below;

Suitable Excavation = earth excavation, rock excavation and other on-site excavation suitable for use in embankments; the volume of other on-site suitable excavation, whether paid for separately or included in the cost of the various items of work, will be computed by the method of average end areas;

Shrinkage Factor = 0.25 unless otherwise shown on the plans.

(1) If the Contractor so requests, the Engineer will reestablish the existing ground line after the clearing and tree removal have been performed according to Section 201 and the top 150 mm (6 in.) of the existing ground surface has been disked and compacted to the satisfaction of the Engineer.

(2) If settlement platforms are erected, the Engineer will reestablish the existing ground line after the embankment is complete as specified in Article 204.07(a)(2).

Furnished excavation placed in excess of that required for the execution of the contract will not be measured for payment.

Freeze-Thaw Rating

Effective: November 1, 2002

Revise the first sentence of Article 1004.02(f) of the Standard Specifications to read:

"When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement, driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch or their repair using concrete, the gradation permitted will be determined from the results of the Department's Freeze-Thaw Test."

Traffic Structures

Effective: November 1, 2002

Add the following sentence to the end of the first paragraph of Article 1069.01(a)(1) of the Standard Specifications:

> "Light poles shall be designed for 145 km/hr (90 mph) wind velocity and a minimum design life of 50 years."

Add the following sentence to the end of the third paragraph of Article 1069.04(a) of the Standard Specifications:

> "Light towers shall be designed for 145 km/hr (90 mph) wind velocity and a minimum design life of 50 years."

Revise the last sentence of the first paragraph of Article 1077.03(a)(1) of the Standard Specifications to read:

> "The design shall be according to AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 1994 Edition for 130 km/hr (80 mph) wind velocity. However the arm-to-pole connection shall be according to the "ring plate" detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO "Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals" 2001 4th Edition."

Temporary Erosion Control

Effective: November 1, 2002

Revise the fifth sentence of the third paragraph of Article 280.04(a) of the Standard Specifications to read:

"This work may be constructed of hay or straw bales, extruded UV resistant high density polyethylene panels, erosion control blanket, mulch barrier, aggregate barriers, excavation, seeding, or mulch used separately or in combination, as approved, by the Engineer."

Add the following paragraphs after the fifth paragraph of Article 280.04(a) of the Standard Specifications.

"A ditch check constructed of extruded, UV resistant, high density polyethylene panels, "M" pins and erosion control blanket shall consist of the following materials:

Extruded, UV resistant, high density polyethylene panels shall have a minimum height of 250 mm (10 in.) and minimum length of 1.0 m (39.4 in.). The panels shall have a 51 mm (2 in.) lip along the bottom of the panel. Each panel shall have a single rib thickness of 4 mm (5/32 in.) with a 12 mm (1/2 in.) distance between the ribs. The panels shall have an average apparent opening size equal to 4.75 mm (No. 4) sieve, with an average of 30 percent open area. The tensile strength of each panel shall be 26.27 kN/m (1800 lb/ft) in the machine direction and 7.3 kN/m (500 lb/ft) in the transverse direction when tested according to ASTM D 4595.

"M" pins shall be at least 76 mm (3 in.) by 686 mm (27 in.), constructed out of deformed grade C1008 D3.5 rod (0.211 in. diameter). The rod shall have a minimum tensile strength of 55 MPa (8000 psi).

Erosion control blanket shall conform to Article 251.04.

A section of erosion control blanket shall be placed transverse to the flowline direction of the ditch prior to the construction of the polyethylene ditch check. The length of the section shall extend from the top of one side of the ditch to the top of the opposite side of the ditch, while the width of the section shall be one roll width of the blanket. The upstream edge of the erosion control blanket shall be secured in a 100 mm (4 in.) trench. The blanket shall be secured in the trench with 200 mm (8 in.) staples placed at 300 mm (1 ft) intervals along the edge before the trench is backfilled. Once the upstream edge of the blanket is secured, the downstream edge shall be secured with 200 mm (8 in.) staples placed at 300 mm (1 ft) intervals along the edge. The polyethylene ditch check shall be installed in the middle of the erosion control blanket, with the lip of each panel facing outward.

The ditch check shall consist of two panels placed back to back forming a single row. Placement of the first two panels shall be at the toe of the backslope or sideslope, with the panels extending across the bottom of the ditch. Subsequent panels shall extend both across the bottom of the ditch and up the opposite sideslope, as well as up the original backslope or sideslope at the distance determined by the Engineer.

The M pins shall be driven through the panel lips to secure the panels to the ground. M pins shall be installed in the center of the panels with adjacent panels overlapping the ends a minimum of 50 mm (2 in.). The pins shall be placed through both sets of panels at each overlap. They shall be installed at an interval of three M pins per one meter (39 in.) length of ditch check. The panels shall be wedged into the M pins at the top to ensure firm contact between the entire bottom of the panels and the soil."

Work Zone Traffic Control Devices

Effective: January 1, 2003
Revised: April 1, 2003

Add the following to Article 702.01 of the Standard Specifications:

"All devices and combinations of devices shall meet the requirements of the National Cooperative Highway Research Program (NCHRP) Report 350 for their respective categories. The categories are as follows:

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, flexible delineators and plastic drums with no attachments. Category 1 devices shall be crash tested and accepted or may be self-certified by the manufacturer.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include drums and vertical panels with lights, barricades and portable sign supports. Category 2 devices shall be crash tested and accepted for Test Level 3.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions, truck mounted attenuators and other devices not meeting the definitions of Category 1 or 2. Category 3 devices shall be crash tested and accepted for Test Level 3.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals and area lighting supports. Currently, there is no implementation date set for this category and it is exempt from the NCHRP 350 compliance requirement.

The Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and an FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets the NCHRP 350 requirements for its respective category and test level, and shall include a detail drawing of the device."

Delete the third, fourth and fifth paragraphs of Article 702.03(b) of the Standard Specifications.

Delete the third sentence of the first paragraph of Article 702.03(c) of the Standard Specifications.

Delete the fourth paragraph of Article 702.05(a) of the Standard Specifications.

Revise the sixth paragraph of Article 702.05(a) of the Standard Specifications to read:

> "When the work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, a temporary sign stand may be used to support a sign at 1.2 m (5 ft) minimum where posts are impractical. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 30 m (100 ft) to avoid obstacles, hazards or to improve sight distance, when approved by the Engineer. "ROAD CONSTRUCTION AHEAD" signs will also be required on side roads located within the limits of the mainline "ROAD CONSTRUCTION AHEAD" signs."

Delete all references to "Type 1A barricades" and "wing barricades" throughout Section 702 of the Standard Specifications.

Vertical Barricades

Effective: November 1, 2002
Revised: January 1, 2003

Add the following to Article 702.03 of the Standard Specifications:

"(h) Vertical Barricades. Vertical Barricades shall meet the requirements of the National Cooperative Highway Research Program (NCHRP) Report 350 and the special provision "Work Zone Traffic Control Devices". Vertical barricades may be used in lieu of cones, drums or Type I and Type II barricades to channelize traffic. Vertical barricades shall not be used in lane closure tapers."

Concrete Admixtures

Effective: January 1, 2003
Revised: January 1, 2004

Revise Article 1020.05(b) of the Standard Specifications to read:

"(b) Admixtures. Except as specified, the use of admixtures to increase the workability or to accelerate the hardening of the concrete will be permitted only when approved in writing by the Engineer. The Department will maintain an Approved List of Concrete Admixtures. When the Department permits the use of a calcium chloride accelerator, it shall be according to Article 442.02, Note 5.

When the atmosphere or concrete temperature is 18 °C (65 °F) or higher, a retarding admixture meeting the requirements of Article 1021.03 shall be used in the Class BD Concrete and portland cement concrete bridge deck overlays. The amount of retarding admixture to be used will be determined by the Engineer. The proportions of the ingredients of the concrete shall be the same as without the retarding admixture except that the amount of mixing water shall be reduced, as may be necessary, in order to maintain the consistency of the concrete as required. In addition, a high range water-reducing admixture shall be used in Class BD Concrete. The amount of high range water-reducing admixture will be determined by the Engineer. At the option of the Contractor, a water-reducing admixture may be used. Type I cement shall be used.

For Class PC and PS Concrete, a retarding admixture may be added to the concrete mixture when the concrete temperature is 18 °C (65 °F) or higher. The Engineer may order or permit the use of a retarding or water-reducing admixture whenever the Engineer considers it appropriate.

At the Contractor's option, admixtures in addition to an air-entraining admixture may be used for Class PP-1 concrete. The accelerator shall be the non-chloride type. If a water-reducing or retarding admixture is used, the cement factor may be reduced a maximum 18 kg/cu m (0.30 hundredweight/cu yd). If a high range water-reducing admixture is used, the cement factor may be reduced a maximum 36 kg/cu m (0.60 hundredweight/cu yd). Cement factor reductions shall not be cumulative when using multiple admixtures. An accelerator shall always be added prior to a high range water-reducing admixture, if both are used.

If Class C fly ash or ground granulated blast-furnace slag is used in Class PP-1 concrete, a water-reducing or high range water-reducing admixture shall be used. However, the cement factor shall not be reduced if a water-reducing, retarding, or high range water-reducing admixture is used. In addition, an accelerator shall not be used.

For Class PP-2 or PP-3 concrete, a non-chloride accelerator followed by a high range water-reducing admixture shall be used, in addition to the air-entraining admixture. For Class PP-3 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-2 or PP-3 concrete, the Contractor has the option to use a water-reducing admixture. A retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

When the air temperature is less than 13 °C (55 °F) for Class PP-1 or PP-2 concrete, the non-chloride accelerator shall be calcium nitrite.

For Class PP-4 concrete, a high range water-reducing admixture shall be used in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture. An accelerator shall not be used. For stationary or truck mixed concrete, a retarding admixture shall be used to allow for haul time. The Contractor has the option to use a mobile portland cement concrete plant according to Article 1103.04, but a retarding admixture shall not be used unless approved by the Engineer. A water-reducing, retarding, or high range water-reducing admixture shall not be used to reduce the cement factor.

If the Department specifies a calcium chloride accelerator for Class PP-1 concrete, the maximum chloride dosage shall be 1.0 L (1.0 quart) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.0 L (2.0 quarts) per 45 kg (100 lb) of cement if approved by the Engineer. If the Department specifies a calcium chloride accelerator for Class PP-2 concrete, the maximum chloride dosage shall be 1.3 L (1.3 quarts) of solution per 45 kg (100 lb) of cement. The dosage may be increased to a maximum 2.6 L (2.6 quarts) per 45 kg (100 lb) of cement if approved by the Engineer.

For Class PV, MS, SI, RR, SC and SH concrete, at the option of the Contractor, or when specified by the Engineer, a water-reducing admixture or a retarding admixture may be used. The amount of water-reducing admixture or retarding admixture permitted will be determined by the Engineer. The air-entraining admixture and other admixtures shall be added to the concrete separately, and shall be permitted to intermingle only after they have separately entered the concrete batch. The sequence, method and equipment for adding the admixtures shall be approved by the Engineer. The water-reducing admixture shall not delay the initial set of the concrete by more than one hour. Type I cement shall be used.

When a water-reducing admixture is added, a cement factor reduction of up to 18 kg/cu m (0.30 hundredweight/cu yd), from the concrete designed for a specific slump without the admixture, will be permitted for Class PV, MS, SI, RR, SC and SH concrete. When an approved high range water-reducing admixture is used, a cement factor reduction of up to 36 kg/cu m (0.60 hundredweight/cu yd), from a specific water cement/ratio without the admixture, will be permitted based on a 14 percent minimum water reduction. This is applicable to Class PV, MS, SI, RR, SC and SH concrete. A cement factor below 320 kg/cu m (5.35 hundredweight/cu yd) will not be permitted for Class PV, MS, SI, RR, SC and SH concrete. A cement factor reduction will not be allowed for concrete placed underwater. Cement factor reductions shall not be cumulative when using multiple admixtures.

For use of admixtures to control concrete temperature, refer to Articles 1020.14(a) and 1020.14(b).

The maximum slumps given in Table 1 may be increased to 175 mm (7 in.) when a high range water-reducing admixture is used for all classes of concrete except Class PV and PP."

Revise Section 1021 of the Standard Specifications to read:

"SECTION 1021. CONCRETE ADMIXTURES

1021.01 General. Admixtures shall be furnished in liquid form ready for use. The admixtures may be delivered in the manufacturer's original containers, bulk tank trucks or such containers or tanks as are acceptable to the Engineer. Delivery shall be accompanied by a ticket which clearly identifies the manufacturer and trade name of the material. In all cases, containers shall be readily identifiable to the satisfaction of the Engineer as to manufacturer and trade name of the material they contain.

Prior to inclusion of a product on the Department's Approved List of Concrete Admixtures, the manufacturer shall submit a report prepared by an independent laboratory accredited by the AASHTO Accreditation Program. The report shall show the results of physical tests conducted no more than five years prior to the time of submittal, according to applicable specifications.

Tests shall be conducted using materials and methods specified on a "test" concrete and a "reference" concrete, together with a certification that no changes have been made in the formulation of the material since the performance of the tests. The report shall also include water contents and results of set time tests according to AASHTO T 197 that were conducted on both a test and reference concrete, using cement from the source that is used as a standard by the Bureau of Materials and Physical Research. The cement content for all required tests shall either be according to applicable specifications or 335 kg/cu m (5.65 cwt/cu yd). Compressive strength test results for six months and one year will not be required.

Prior to the approval of an admixture, the Engineer may conduct all or part of the applicable tests on a sample that is representative of the material to be furnished. The test and reference concrete mixtures tested by the Engineer will contain a cement content of 335 kg/cu m (5.65 cwt/cu yd).

The manufacturer shall submit certification, both initially and annually thereafter, giving the following information according to ASTM C 494; the average and manufacturing range of specific gravity, the average and manufacturing range of solids in the solution, and the average and manufacturing range of pH. The initial and annual certifications shall further state that all admixtures, except chloride-based accelerators, shall contain no more than 0.3 percent chloride by mass. The initial submittal shall also include an infrared spectrophotometer trace no more than five years old.

Annual re-submittals will be required and shall include certification that no changes have been made in the formulation since it was initially approved. The certification shall state that the admixture is the same as previously approved, and the Engineer may conduct such tests as deemed desirable to check the properties of the material before re-approval is granted.

When test results are more than seven years old, the manufacturer shall re-submit the infrared spectrophotometer trace and the report prepared by an independent laboratory that is accredited by AASHTO Accreditation Program.

1021.02 Air-Entraining Admixtures. Air-entraining admixtures shall conform to the requirements of AASHTO M 154.

If the manufacturer certifies that the air-entraining admixture is an aqueous solution of Vinsol resin that has been neutralized with sodium hydroxide (caustic soda), testing for compliance with the requirements may be waived by the Engineer. In the certification, the manufacturer shall show complete information with respect to the formulation of the solution, including the number of parts of Vinsol resin to each part of sodium hydroxide. Before the approval of its use is granted, the Engineer will test the solution for its air-entraining quality in comparison with a solution prepared and kept for that purpose.

1021.03 Retarding and Water-Reducing Admixtures. The admixture shall comply with the following requirements:

(a) The retarding admixture shall comply with the requirements of AASHTO M 194, Type B (retarding) or Type D (water-reducing and retarding).

(b) The water-reducing admixture shall comply with the requirements of AASHTO M 194, Type A.

(c) The high range water-reducing admixture shall comply with the requirements of AASHTO M 194, Type F (high range water-reducing) or Type G (high range water-reducing and retarding).

When a Type F or Type G high range water-reducing admixture is used, water-cement ratios shall be a minimum of 0.32.

Type F or Type G admixtures may be used, subject to the following restrictions:

For Class MS, SI, RR, SC and SH concrete, the water-cement ratio shall be a maximum of 0.44.

The Type F or Type G admixture shall be added at the jobsite unless otherwise directed by the Engineer. The initial slump shall be a minimum of 40 mm (1 1/2 in.) prior to addition of the Type F or Type G admixture, except as approved by the Engineer.

When a Type F or Type G admixture is used, retempering with water or with a Type G admixture will not be allowed. An additional dosage of a Type F admixture, not to exceed 40 percent of the original dosage, may be used to retemper concrete once, provided set time is not unduly affected. A second retempering with a Type F admixture may be used for all classes of concrete except Class PP and SC, provided that the dosage does not exceed the dosage used for the first retempering, and provided that the set time is not unduly affected. No further retempering will be allowed.

Air tests shall be performed after the addition of the Type F or Type G admixture.

1021.04 Set Accelerating Admixtures. The admixture shall comply with the requirements of AASHTO M 194, Type C (accelerating) or Type E (water reducing and accelerating)"

Portland Cement Concrete

Effective: November 1, 2002

Add the following paragraph after the fourth paragraph of Article 1103.01(b) of the Standard Specifications:

> "The truck mixer shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Add the following paragraph after the first paragraph of Article 1103.01(c) of the Standard Specifications:

> "The truck agitator shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Add the following paragraph after the first paragraph of Article 1103.01(d) of the Standard Specifications:

> "The nonagitator truck shall be approved before use according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Revise the first sentence of the first paragraph of Article 1103.02 of the Standard Specifications to read:

"The plant shall be approved before production begins according to the Bureau of Materials and Physical Research's Policy Memorandum, "Approval of Concrete Plants and Delivery Trucks"."

Curing and Protection of Concrete Construction

Effective: January 1, 2004

Revise the second and third sentences of the eleventh paragraph of Article 503.06 of the Standard Specifications to read:

"Forms on substructure units shall remain in place at least 24 hours. The method of form removal shall not result in damage to the concrete."

Delete the twentieth paragraph of Article 503.22 of the Standard Specifications.

Revise the "Unit Price Adjustments" table of Article 503.22 of the Standard Specifications to read:

"UNIT PRICE ADJUSTMENTS	
Type of Construction	Percent Adjustment in Unit Price
For concrete in substructures, culverts (having a waterway opening of more than 1 sq m (10 sq ft)), pump houses, and retaining walls (except concrete pilings, footings and foundation seals):	
When protected by:	
Protection Method II	115%
Protection Method I	110%
For concrete in superstructures:	
When protected by:	
Protection Method II	123%
Protection Method I	115%
For concrete in footings:	
When protected by:	
Protection Method I, II or III	107%
For concrete in slope walls:	
When protected by:	
Protection Method I	107%"

Delete the fourth paragraph of Article 504.05(a) of the Standard Specifications.

Revise the second and third sentences of the fifth paragraph of Article 504.05(a) of the Standard Specifications to read:

"All test specimens shall be cured with the units according to Article 1020.13."

Revise the first paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"Curing and Low Air Temperature Protection. The curing and protection for precast, prestressed concrete members shall be according to Article 1020.13 and this Article."

Revise the first sentence of the second paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"For curing, air vents shall be in place, and shall be so arranged that no water can enter the void tubes during the curing of the members."

Revise the first sentence of the third paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"As soon as each member is finished, the concrete shall be covered with curing material according to Article 1020.13."

Revise the eighth paragraph of Article 504.06(c)(6) of the Standard Specifications to read:

"The prestressing force shall not be transferred to any member before the concrete has attained the compressive strength of 28,000 kPa (4000 psi) or other higher compressive release strength specified on the plans, as determined from tests of 150 mm (6 in.) by 300 mm (12 in.) cylinders cured with the member according to Article 1020.13. Members shall not be shipped until 28-day strengths have been attained and members have a yard age of at least 4 days."

Delete the third paragraph of Article 512.03(a) of the Standard Specifications.

Delete the last sentence of the second paragraph of Article 512.04(d) of the Standard Specifications.

Revise the "Index Table of Curing and Protection of Concrete Construction" table of Article 1020.13 of the Standard Specifications to read:

"INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
Cast-in-Place Concrete: [11/]			
Pavement Shoulder	1020.13(a)(1)(2)(3)(4)(5)[3/ 5/]	3	1020.13(c)
Base Course Base Course Widening	1020.13(a)(1)(2)(3)(4)(5)[1/ 2/]	3	1020.13(c)
Driveway Median Curb Gutter Curb and Gutter Sidewalk Slope Wall	1020.13(a)(1)(2)(3)(4)(5)[4/ 5/]	3	1020.13(c)[16/]
Paved Ditch Catch Basin Manhole Inlet Valve Vault	1020.13(a)(1)(2)(3)(4)(5)[4/]	3	1020.13(c)
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5)[2/]	3[12/]	1020.13(c)
Pavement Replacement	1020.13(a)(1)(2)(3)(4)(5)[1/ 2/]	3	442.06(h) and 1020.13(c)
Railroad Crossing	1020.13(a)(3)(5)	1	1020.13(c)
Piles	1020.13(a)(3)(5)	7	1020.13(e)(1)(2)(3)
Footings Foundation Seals	1020.13(a)(1)(2)(3)(4)(5)[4/6/]	7	1020.13(e)(1)(2)(3)
Substructure	1020.13(a)(1)(2)(3)(4)(5)[1/7/]	7	1020.13(e)(1)(2)(3)
Superstructure (except deck)	1020.13(a)(1)(2)(3)(5)[8/]	7	1020.13(e)(1)(2)
Deck	1020.13(a)(5)	7	1020.13(e)(1)(2)[17/]
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5)[1/7/]	7	1020.13(e)(1)(2)
Pump Houses	1020.13(a)(1)(2)(3)(4)(5)[1/]	7	1020.13(e)(1)(2)
Culverts	1020.13(a)(1)(2)(3)(4)(5)[4/6/]	7	1020.13(e)(1)(2)[18/]
Other Incidental Concrete	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Precast Concrete: [11/]			
Bridge Beams Piles Bridge Slabs Nelson Type Structural Member	1020.13(a)(3)(5)[9/10/]	As required.[13/]	504.06(c)(6), 1020.13(e)(2)[19/]
All Other Precast Items	1020.13(a)(3)(4)(5)[2/9/10/]	As required.[14/]	504.06(c)(6), 1020.13(e)(2)[19/]
Precast, Prestressed Concrete: [11/]			
All Items	1020.13(a)(3)(5)[9/10/]	Until strand tensioning is released.[15/]	504.06(c)(6), 1020.13(e)(2)[19/]

Notes-General:

1/ Type I, membrane curing only

2/ Type II, membrane curing only

3/ Type III, membrane curing only

4/ Type I, II and III membrane curing

5/ Membrane curing will not be permitted between November 1 and April 15.

6/ The use of water to inundate footings, foundation seals or the bottom slab of culverts is permissible when approved by the Engineer, provided the water temperature can be maintained at 7 °C (45 °F) or higher.

7/ Asphalt Emulsion for Waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18.

8/ On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound may be used as a substitute for protective coat and other curing methods. The linseed emulsion curing compound will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer according to Article 1101.09 (b), and meets the material requirements of Article 1022.07.

9/ Steam curing (heat and moisture) is acceptable and shall be accomplished by the method specified in Article 504.06(c)(6).

10/ A moist room according to AASHTO M 201 is acceptable for curing.

11/ If curing is required and interrupted because of form removal for cast-in-place concrete items, precast concrete products, or precast prestressed concrete products, the curing shall be resumed within two hours from the start of the form removal.

12/ Curing maintained only until opening strength is attained, with a maximum curing period of three days.

13/ The curing period shall end when the concrete has attained the mix design strength. The producer has the option to discontinue curing when the concrete has attained 80 percent of the mix design strength or after seven days. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.

14/ The producer shall determine the curing period or may elect to not cure the product. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.

15/ The producer has the option to continue curing after strand release.

16/ When structural steel or structural concrete is in place above slope wall, Article 1020.13(c) shall not apply. The protection method shall be according to Article 1020.13(e)(1).

17/ When Article 1020.13(e)(2) is used to protect the deck, the housing may enclose only the bottom and sides. The top surface shall be protected according to Article 1020.13(e)(1).

18/ For culverts having a waterway opening of 1 sq m (10 sq ft) or less, the culverts may be protected according to Article 1020.13(e)(3).

19/ The seven day protection period in the first paragraph of Article 1020.13(e)(2) shall not apply. The protection period shall end when curing is finished. For the third paragraph of Article 1020.13(e)(2), the decrease in temperature shall be according to Article 504.06(c)(6)."

Add the following to Article 1020.13(a) of the Standard Specifications:

"(5) Wetted Cotton Mat Method. After the surface of concrete has been textured or finished, it shall be covered immediately with dry cotton mats. The cotton mats shall be placed in a manner which will not mar the concrete surface. A texture resulting from the cotton mat material is acceptable. The cotton mats shall then be wetted immediately and thoroughly

soaked with a gentle spray of water. For bridge decks, a foot bridge shall be used to place and wet the cotton mats.

The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without marring the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 1.2 m (4 ft) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

After placement of the soaker hoses, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets.

For construction items other than bridge decks, soaker hoses or a continuous wetting system will not be required if the alternative method keeps the cotton mats wet. Periodic wetting of the cotton mats is acceptable.

For areas inaccessible to the cotton mats on bridge decks, curing shall be according to Article 1020.13(a)(3)."

Revise the first paragraph of Article 1020.13(c) of the Standard Specifications to read:

"Protection of Portland Cement Concrete, Other Than Structures, From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low of 0 °C (32 °F), or lower, or if the actual temperature drops to 0 °C (32 °F), or lower, concrete less than 72 hours old shall be provided at least the following protection:"

Delete Article 1020.13(d) and Articles 1020.13(d)(1),(2),(3),(4) of the Standard Specifications.

Revise the first five paragraphs of Article 1020.13(e) of the Standard Specifications to read:

"Protection of Portland Cement Concrete Structures From Low Air Temperatures. When the official National Weather Service Forecast for the construction area predicts a low below 7 °C (45 °F), or if the actual temperature drops below 7 °C (45 °F), concrete less than 72 hours old shall be provided protection. Concrete shall also be provided protection when placed during the winter period of December 1 through March 15. Concrete shall not be placed until the materials, facilities and equipment for protection are approved by the Engineer.

When directed by the Engineer, the Contractor may be required to place concrete during the winter period. If winter construction is specified, the Contractor shall proceed with the construction, including concrete, excavation, pile driving, steel erection and all appurtenant work required for the complete construction of the item, except at times when weather conditions make such operations impracticable.

Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced by the Contractor at his/her own expense."

Add the following at the end of the third paragraph of Article 1020.13(e)(1) of the Standard Specifications:

"The Contractor shall provide means for checking the temperature of the surface of the concrete during the protection period."

Revise the second sentence of the first paragraph of Article 1020.13(e)(2) of the Standard Specifications to read:

"The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period."

Delete the last sentence of the first paragraph of Article 1020.13(e)(3) of the Standard Specifications.

Add the following Article to Section 1022 of the Standard Specifications:

"**1022.06 Cotton Mats.** Cotton mats shall consist of a cotton fill material, minimum 400 g/sq m (11.8 oz/sq yd), covered with unsized cloth or burlap, minimum 200 g/sq m (5.9 oz/sq yd), and be tufted or stitched to maintain stability.

Cotton mats shall be in a condition satisfactory to the Engineer. Any tears or holes in the mats shall be repaired.

Add the following Article to Section 1022 of the Standard Specifications:

"**1022.07 Linseed Oil Emulsion Curing Compound.** Linseed oil emulsion curing compound shall be composed of a blend of boiled linseed oil and high viscosity, heavy bodied linseed oil emulsified in a water solution. The curing compound shall meet the requirements of a Type I, II, or III according to Article 1022.01, except the drying time requirement will be waived. The oil phase shall be 50 ± 4 percent by volume. The oil phase shall consist of 80 percent by mass (weight) boiled linseed oil and 20 percent by mass (weight) Z-8 viscosity linseed oil. The water phase shall be 50 ± 4 percent by volume."

Revise Article 1020.14 of the Standard Specifications to read:

"**1020.14 Temperature Control for Placement.** Temperature control for concrete placement shall conform to the following requirements:

(a) Temperature Control other than Structures. The temperature of concrete immediately before placing, shall be not less than 10 °C (50 °F) nor more than 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

Plastic concrete temperatures up to 35 °C (96 °F), as placed, may be permitted provided job site conditions permit placement and finishing without excessive use of water on and/or overworking of the surface. The occurrence within 24 hours of unusual surface distress shall be cause to revert to a maximum 32 °C (90 °F) plastic concrete temperature.

Concrete shall not be placed when the air temperature is below 5 °C (40 °F) and falling or below 2 °C (35 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to not less than 20 °C (70 °F) nor more than 65 °C (150 °F). The aggregates may be heated by either

steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

For pavement patching, refer to Article 442.06(e) for additional information on temperature control for placement.

(b) Temperature Control for Structures. The temperature of concrete as placed in the forms shall be not less than 10 °C (50 °F) nor more than 32 °C (90 °F). Aggregates and/or water shall be heated or cooled as necessary to produce concrete within these temperature limits. When insulated forms are used, the temperature of the concrete mixture shall not exceed 25 °C (80 °F). If the Engineer determines that heat of hydration might cause excessive temperatures in the concrete, the concrete shall be placed at a temperature between 10 °C (50 °F) and 15 °C (60 °F), per the Engineer's instructions. When concrete is placed in contact with previously placed concrete, the temperature of the concrete may be increased as required to offset anticipated heat loss.

Concrete shall not be placed when the air temperature is below 7 °C (45 °F) and falling or below 4 °C (40 °F), without permission of the Engineer. When placing of concrete is authorized during cold weather, the Engineer may require the water and/or the aggregates to be heated to not less than 20 °C (70 °F) nor more than 65 °C (150 °F). The aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might damage the materials. No frozen aggregates shall be used in the concrete.

When the temperature of the plastic concrete reaches 30 °C (85 °F), an approved retarding admixture shall be used or the approved water reducing admixture in use shall have its dosage increased by 50 percent over the dosage recommended on the Department's Approved List of Concrete Admixtures for the temperature experienced. The amount of retarding admixture to be used will be determined by the Engineer. This requirement may be waived by the Engineer when fly ash compensated mixtures are used.

(c) Temperature. The concrete temperature shall be determined according to ASTM C 1064."

Personal Protective Equipment

Effective: July 1, 2004

All personnel, excluding flaggers, working outside of a vehicle (car or truck) within 7.6 m (25 ft) of pavement open to traffic shall wear a fluorescent orange, fluorescent yellow/green or a combination of fluorescent orange and fluorescent yellow/.green vest meeting the requirements of the American National Standards Institute specification ANSI/ISEA 107-1999 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have manufacturers tags identifying them as meeting the ANSI Class 2 requirement.

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route F.A.U. Route 3502 (U.S. Route 45) at F.A.U. Route 2666 (Prairie Road/Fairway Drive)

Marked U.S. Route 45 at Prairie Road/Fairway Drive C.M.A.Q. Improvement

Section 98-00254-00-CH

Project No. CMM-8003 (423)

County Lake

This plan has been prepared to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

August 25, 2004
Date

Project Engineer
Title

1. **Site Description**

   a. The following is a description of the construction activity which is the subject of this plan (use additional pages, as necessary):

   This project is formally known as the F.A.U. Route 3502 (U.S. Route 45) at F.A.U. Route 2666 (Prairie Road/U.S. Route 45) C.M.A.Q. Improvement. The work to be performed as a part of this project will consist of the following: Tree Removal; Curb & Gutter and Pavement Removal; Earth Excavation; Construction of Storm Sewer; Construction of Aggregate Shoulders; Construction of P.C.C. Curb & Gutter and Medians; Construction of P.C.C. Base Course and Bituminous Base Course; Construction of Bituminous Binder and Surface Courses; P.C.C. Sidewalks; Construction of Water Main; Guardrail; Traffic Signals; Pavement Markings; Signing; Landscaping and all other incidental work necessary to complete the project as shown on the plans.

   b. The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site, such as grubbing, excavation and grading (use additional pages, as necessary):
      1. Tree Removal
      2. Earth Excavation
      3. Existing Pavement Removal
      4. Storm Sewer Installation
      5. Water Main Installation
      6. Subgrade Preparation and Paving
      7. Traffic Signal Installation
      8. Grading
      9. Landscaping

c. The total area of the construction site is estimated to be 10.59 acres.
The total area of the site that it is estimated to be disturbed by excavation, grading or other activities is 10.59 acres.

d. The estimated runoff coefficients of the various areas of the site after construction activities are completed are contained in the project drainage study which is hereby incorporated by reference in this plan. Information describing the soils at the site is contained either in the Soils Report for the project, which is hereby incorporated by reference, or in an attachment to this plan.

e. The design/project report and plan documents, hereby incorporated by reference, contain site map(s) indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of major soil disturbance, the location of major structural and nonstructural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters (including wetlands), and locations where storm water is discharged to a surface water.

f. The names of receiving water(s) and area extent of wetland acreage at the site are in the design/project report and are incorporated by reference as a part of this plan.

2. Controls

This section of the plan addresses the various controls that will be implemented for each of the major construction activities described in 1.b. above. For each measure discussed, the contractor that will be responsible for its implementation is indicated. Each such contractor has signed the required certification on forms which are attached to, and a part of, this plan:

a. Erosion and Sediment Controls

(i) Stabilization Practices. Provided below is a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as provided in 2.a.(i).(A) and 2.b., stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased on all disturbed portions of the site where construction activity will not occur for a period of 21 or more calendar days.

(A) where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

Description of Stabilization Practices (use additional pages, as necessary):

- Temporary Tree Protection – Where applicable, Tree Trunk Protection, Tree Root Pruning, and Tree Pruning (1 to 10 Inch Diameter) in accordance with Section 201 of the IDOT "Standard Specifications" for Road and Bridge Construction" shall be used to preserve existing trees.
- Stone Riprap – Class A4 stone riprap with filter fabric will be used at the discharge points of the storm sewer system to eliminate scoring and downstream erosion.
- Permanent Stabilization – All areas disturbed during construction shall be stabilized with permanent seeding immediately following finished grading.

- Erosion Control Blankets – Erosion Control Blankets will be installed on slopes and in high velocity areas that have been brought to finished grade and seeded to protect slopes and allow seeds to germinate.

(ii) Structural Practices. Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions and temporary or permanent sediment basins. The installation of these devices may be subject to Section 404 of the Clean Water Act.

Description of Structural Practices (use additional pages, as necessary):

- Stabilized Construction Entrance – Coarse Aggregate overlaying a geotextile fabric will be placed in locations necessary for contractor access. The aggregate surface will collect soil debris, reducing soil deposits on the pavement by vehicles exiting the work zone.
- Inlet and Outlet Protection – Inlet and Outlet Protection will be placed at storm sewer structures per the Erosion Control Plans to reduce sedimentation and downstream erosion.
- Perimeter Erosion Barrier – Silt fence will be placed adjacent to areas of construction to capture waterborne silt and prevent it from leaving the site. These areas are shown on the Erosion Control Plans.
- Temporary Ditch Checks – Ditch Checks will be placed in swales approximately ever 100 feet or per the Engineer to prevent downstream erosion.
- Stone Riprap – Stone Riprap will be placed at all storm sewer discharges to prevent scoring and downstream erosion.
- Pipe Underdrains – Pipe Underdrains will be used to minimize potential erosion caused by surface water flows by reducing subsurface water which can cause failed pavements and other disturbed areas.
- Sediment Control, Drainage Structure Inlet Filter – A drainage structure inlet filter assembly, consisting of a frame and filter bag, to collect sediment in surface stormwater runoff at locations shown on the plans. drainage structure inlet filter assembly shall be installed under the grate on the lip of the drainage structure frame with the fabric bag hanging down into the drainage structure.

b. Storm Water Management

Provided below is a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

(i) Such practices may include: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff on site; and sequential systems (which combine several practices). **The practices selected for implementation were determined on the basis of the technical guidance in Section 10-300 (Design Considerations) in Chapter 10 (Erosion and Sedimentation Control) of the Illinois Department of Transportation Drainage Manual. If practices other than those discussed in Section 10-300 are selected for implementation or if practices are applied to situations different from those covered in Section 10-300, the technical basis for such decisions will be explained below.**

(ii) Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

Description of Storm Water Management Controls (use additional pages, as necessary):

- A detention pond located to the northwest of the U.S. Route 45 and Fairway Drive intersection will provide detention for the entire project.
- Ditches and swales will be used where possible to provide runoff infiltration and a buffer effect for stormwater runoff contaminants. All ditches and swales will be vegetated.

c. Other Controls

(i) Waste Disposal. No solid materials, including building materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.

(ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

d. Approved State or Local Plans

The management practices, controls and provisions contained in this plan will be in accordance with IDOT specifications, which are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual, 1995. Procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials shall be described or incorporated by reference in the space provided below. Requirements specified in sediment and erosion site plans or site permits or storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI to be authorized to discharge under permit ILR10 incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

Description of procedures and requirements specified in applicable sediment and erosion site plans or storm water management plans approved by local officials:

- See Erosion and Sediment Control Plans.

3. Maintenance

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan (use additional pages, as necessary):

Construction equipment shall be stored and fueled only at designated locations. All necessary measures shall be taken to contain any fuel or pollution runoff in compliance with environmental law and EPA Water Quality Regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site. The construction field engineer on a bi-weekly basis shall inspect the project to determine that erosion control efforts are in place and effective and if other control is necessary. Sediment collected during the construction by various temporary erosion systems shall be disposed on the site on a regular basis as directed by the Engineer.

All erosion control measures will be checked weekly and after each significant rainfall (0.5 inches or greater in a 24 hour period).

All maintenance of the erosion control systems will be the responsibility of the contractor. All locations where vehicles enter and exit the construction site and all other areas subject to erosion should also be inspected periodically. Inspection of these areas shall be made at least once every seven days and within 24 hours of the end of each 0.5 inch or greater rainfall, or an equivalent snowfall.

4. Inspections

Qualified personnel shall inspect disturbed areas of the construction site which have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site. Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater or equivalent snowfall.

a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off site sediment tracking.

b. Based on the results of the inspection, the description of potential pollutant sources identified in section 1 above and pollution prevention measures identified in section 2 above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 7 calendar days following the inspection.

c. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this storm water pollution prevention plan, and actions taken in accordance with section 4.b. shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI. G of the general permit.

d. If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer or Resident Technician shall complete and file an "Incidence of Noncompliance" (ION) report for the identified violation. The Resident Engineer or Resident Technician shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit.

The report of noncompliance shall be mailed to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, Illinois 62794-9276

5. Non-Storm Water Discharges

Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in this plan must be described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge. (Use additional pages as necessary to describe non-storm water discharges and applicable

- Dewatering activities in order to lower the existing water level to construct the submerged pipe foundation for the existing detention pond will be a source of non-stormwater discharge during construction. Contractors should discharge dewatering activities to a temporary settling basin surrounded by silt fence as directed by the Engineer.
- The cutting of joints in P.C.C. pavements will result in slurry. This slurry will be contained on the pavement and cleaned up and disposed of per the Engineer's directions.
- Redi-mix concrete trucks should wash out only in areas designated for said purpose by the Engineer. The wash out area should be surrounded by silt fence. After all P.C.C. items have been constructed, the dried concrete material will be cleaned up and disposed of per the Engineer.
- On site maintenance of equipment must be performed in accordance with environmental law, such as no dumping of old engine oil and other fluids on site.

Illinois Department of Transportation

Contractor Certification Statement

This certification statement is a part of the Storm Water Pollution Prevention Plan for the project described below, in accordance with NPDES Permit No. ILR10, issued by the Illinois Environmental Protection Agency on May 14, 1998.

Project Information:

Route F.A.U. Route 3502 (U.S. Route 45) at F.A.U. Route 2666 (Prairie Road/Fairway Drive)

Marked U.S. Route 45 at Prairie Road/Fairway Drive C.M.A.Q. Improvement

Section 98-00254-00-CH

Project No. CMM-8003 (423)

County Lake

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR 10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature

Date

Title

Name of Firm

Street Address

City

State

Zip Code

Telephone Number

Illinois Department of Transportation

Erosion Control Inspection Report

County

Section

Route

District

Contract No.

Job No.

Project

NPDES Permit _____

Date of Inspection: _____

Name of Inspector: _____

Type of Inspection: Weekly _____

>0.5" Precip. _____

Contractor: _____

Subs: _____

Are all of the temporary and permanent controls contained in the pollution prevention (erosion control) plan or as directed by the engineer in place? ☐ Yes ☐ No If no, why not? _____

Are the temporary and permanent erosion and sediment controls which have been installed operating correctly? ☐ Yes ☐ No If no, what additional controls or adjustments is the contractor hereby directed to install or perform?

Are the erosion and sediment controls being properly maintained? ☐ Yes ☐ No If no, what maintenance is the contractor hereby directed to perform? _____

Is there tracking of sediment from locations where vehicles enter and leave the project? ☐ Yes ☐ No If yes, describe the location(s) and the actions the contractor is hereby directed to perform. _____

Have the additional controls, adjustments or maintenance directed as result of the last inspection been implemented within seven calendar days? ☐ Yes ☐ No ☐ N/A If no, the contractor is hereby notified that no further work activity will be permitted to take place until the needed corrective measures have been taken.

Location, date and type of corrective action taken for deficiencies listed above.

Other comments: _____

_____
Resident

Orig. Project File
c.c. Contractor

BC 2259 (Rev. 2/2000)

GUIDELINES FOR COMPLETION OF NOTICE OF INTENT (NOI) FORM

Please adhere to the following guidelines:

Submit original, photocopy or facsimile copies. Facsimile and/or photo copies should be followed-up with an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the lower right hand corner.

- Submit completed forms to:

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Permit Section
  Post Office Box 19276
  Springfield, Illinois 62794-9276
  or call (217)782-0610

- Reports must be typed or printed legibly and signed.

- If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line.

- NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

- Use the formats given in the following examples for correct form completion.

	Example	Format
SECTION	12	1 or 2 numerical digits
TOWNSHIP	12N	1 or 2 numerical digits followed by "N" or "S"
RANGE	12W	1 or 2 numerical digits followed by "E" or "W"

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
NOTICE OF INTENT (NOI)
GENERAL PERMIT TO DISCHARGE STORM WATER CONSTRUCTION SITE ACTIVITIES

OWNER INFORMATION

NAME:	LAST	FIRST	MIDDLE INITIAL	OWNER TYPE: (SELECT ONE) ☐ PRIVATE ☐ COUNTY ☐ CITY ☐ SPECIAL DISTRICT ☐ FEDERAL ☐ STATE		
MAILING ADDRESS:						
CITY:		STATE:		ZIP:		
CONTACT PERSON:		TELEPHONE NUMBER:	AREA CODE	NUMBER		

CONTRACTOR INFORMATION

NAME:		TELEPHONE NUMBER:	AREA CODE	NUMBER			
MAILING ADDRESS:		CITY:		STATE:		ZIP:	

CONSTRUCTION SITE INFORMATION

SELECT ONE:	☐ EXISTING SITE ☐ NEW SITE ☐ CHANGE OF INFORMATION								GENERAL NPDES PERMIT NUMBER:	ILR10 ___ ___ ___ ___				
FACILITY NAME:					OTHER NPDES PERMIT NUMBERS:									
FACILITY LOCATION:	(Not necessarily the mailing address)					TELEPHONE NUMBER:	AREA CODE	NUMBER						
CITY:		STATE:	IL	ZIP:		LATITUDE:	DEG.	MIN.	SEC.	LONGITUDE:	DEG.	MIN.	SEC.	
COUNTY:		SECTION:				TOWNSHIP:				RANGE:				
CONSTRUCTION START DATE:		CONSTRUCTION END DATE:				TOTAL SIZE OF CONSTRUCTION SITE IN ACRES:								

TYPE OF CONSTRUCTION (SELECT ALL THAT APPLY)

☐ RESIDENTIAL ☐ COMMERCIAL ☐ INDUSTRIAL ☐ RECONSTRUCTION ☐ TRANSPORTATION ☐ OTHER

HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

HAS THIS PROJECT SATISFIED APPLICABLE REQUIREMENTS FOR COMPLIANCE WITH ILLINOIS LAW ON:

HISTORIC PRESERVATION	☐ YES	☐ NO
ENDANGERED SPECIES	☐ YES	☐ NO

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

OWNER SIGNATURE:_____ DATE: _____

MAIL COMPLETED FORM TO:

(DO NOT SUBMIT ADDITIONAL DOCUMENTATION UNLESS REQUESTED)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
ATTN: PERMIT SECTION
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

FOR OFFICE USE ONLY

LOG:
PERMIT NO. ILR10 ___ ___ ___ ___
DATE:

Information required by this form must be provided to comply with 415 ILCS 5/39 (1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2104
WPC 623 Rev. 5/99

GUIDELINES FOR COMPLETION OF INCIDENCE OF NON-COMPLIANCE (ION) FORM

Complete and submit this form for any violation of the Storm Water Pollution Prevention Plan observed during any inspection conducted, including those not required by the Plan. Please adhere to the following guidelines.

- Submit original, photocopy or facsimile copies. Facsimile and/or photo copies should be followed-up with an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the lower right hand corner.

- Submit completed forms to:

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Permit Section
  Post Office Box 19276
  Springfield, Illinois 62794-9276

- Reports must be typed or printed legibly and signed.

- Use the formats given in the following examples for correct form completion.

Example		Format
SECTION	12	1 or 2 numerical digits
TOWNSHIP	12N	1 or 2 numerical digits followed by "N" or "S"
RANGE	12W	1 or 2 numerical digits followed by "E" or "W"

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
CONSTRUCTION SITE STORM WATER DISCHARGE
INCIDENCE OF NON-COMPLIANCE (ION)

PERMITTEE NAME:	LAST				FIRST		MIDDLE INITIAL		AREA CODE + PHONE NUMBER:						
STREET:					CITY:				ST:			ZIP:			
CONSTRUCTION SITE NAME:															
COUNTY:			SECTION:				TOWNSHIP:			RANGE:					
NPDES PERMIT NUMBER:	I	L	R	1	0				LATITUDE: DEG.	MIN.	SEC.	LONGITUDE: DEG.	MIN.	SEC.	

CAUSE OF NON-COMPLIANCE:

ACTIONS TAKEN TO PREVENT ANY FURTHER NON-COMPLIANCE:

ENVIRONMENTAL IMPACT RESULTING FROM THE NON-COMPLIANCE:

ACTIONS TAKEN TO REDUCE THE ENVIRONMENTAL IMPACT RESULTING FROM THE NON-COMPLIANCE:

SIGNATURE: ______________________ TITLE: ______________________ DATE: ______________

FOR OFFICE USE ONLY

LOG:
PERMIT NO. ILR10__ __ __ __
DATE:

MAIL COMPLETED FORM TO:

(DO NOT SUBMIT ADDITIONAL DOCUMENTATION UNLESS REQUESTED)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
COMPLIANCE ASSURANCE SECTION #19
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

Information required by this form must be provided to comply with 415 ILCS 5/39(1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2105
WPC 624 Rev. 6/98)

GUIDELINES FOR COMPLETION OF NOTICE OF TERMINATION (NOT) FORM

Please adhere to the following guidelines:

Submit original, photocopy or facsimile copies. Facsimile and/or photo copies should be followed-up with an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the lower right hand corner.

- Submit completed forms to:

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Permit Section
  Post Office Box 19276
  Springfield, Illinois 62794-9276
  217/782-0610

- Reports must be typed or printed legibly and signed.

- NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

- Use the formats given in the following examples for correct form completion.

	Example	Format
SECTION	12	1 or 2 numerical digits
TOWNSHIP	12N	1 or 2 numerical digits followed by "N" or "S"
RANGE	12W	1 or 2 numerical digits followed by "E" or "W"

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
NOTICE OF TERMINATION (NOT)
OF COVERAGE UNDER THE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITY

OWNER INFORMATION

NAME:	LAST	FIRST	MIDDLE INITIAL	OWNER TYPE: (SELECT ONE) ☐ PRIVATE ☐ COUNTY ☐ CITY ☐ SPECIAL DISTRICT ☐ FEDERAL ☐ STATE	
MAILING ADDRESS:					
CITY:		STATE:		ZIP:	
CONTACT PERSON:		TELEPHONE NUMBER:	AREA CODE	NUMBER	

CONTRACTOR INFORMATION

NAME:				TELEPHONE NUMBER:	AREA CODE	NUMBER	
MAILING ADDRESS:		CITY:		STATE:		ZIP:	

CONSTRUCTION SITE INFORMATION

FACILITY NAME:						NPDES STORM WATER GENERAL PERMIT NUMBER:	I	L	R	1	0				
FACILITY LOCATION:	(Not necessarily the mailing address)														
CITY:		STATE:	IL	ZIP:		LATITUDE	DEG.	MIN.	SEC.	LONGITUDE:		DEG.	MIN.	SEC.	
COUNTY:				SECTION:		TOWNSHIP:				RANGE:					

I certify under penalty of law that disturbed soils at the identified facility have been finally stabilized or that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with industrial activity by the general permit, and that discharging pollutants in storm water associated with industrial activity to Waters of the State is unlawful under the Environmental Protection Act and the Clean Water Act where the discharge is not authorized by an NPDES permit.

OWNER SIGNATURE:_____ DATE: _____

MAIL COMPLETED FORM TO:

(DO NOT SUBMIT ADDITIONAL DOCUMENTATION UNLESS REQUESTED)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
ATTN: PERMIT SECTION
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

FOR OFFICE USE ONLY

LOG:
PERMIT NO. ILR10 ____
DATE:

Information required by this form must be provided to comply with 415 ILCS 5/39 (1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2102
WPC 621 Rev. 6/98

SCHLEEDE
HAMPTON
ASSOCIATES INC
CONSULTING ENGINEERS

• CIVIL • GEOTECHNICAL • ENVIRONMENTAL • CONSULTANTS •

SCHLEEDE HAMPTON ASSOCIATES INC

CONSULTING ENGINEERS

November 9, 1999

Ms. Mary L. Young, P.E.
Civiltech Engineering, Inc.
500 Park Boulevard
Suite 250
Itasca, Illinois 60143

Re: Geotechnical Exploration and Analysis
Fairway Drive Extension
Illinois Route 45 to Nike Site
Vernon Hills, Illinois
SHA File No. 48386

Dear Ms. Young:

We have completed the field exploration work and analysis of the subgrade conditions and existing pavement materials for proposed improvements for the above referenced project. This report was prepared for your use in preparing the project design plans.

Purpose

The purpose of this exploration was to determine the existing pavement materials along the alignments being considered for rehabilitation and the types of soil which compose the existing subgrade to determine the presence of problem subgrade materials that may require special treatments. Using this information along with the project data provided, design criteria and recommendations for earthwork and subgrade treatment have been prepared for use by the Design Engineers in preparing the plans and specifications.

Scope

The scope of this exploration and analysis included review of available project information, subsurface exploration, field and laboratory testing, analysis of the data obtained, formulation of our recommendations and preparation of this report. The field exploration included making twenty (20) profile borings for the subgrade soil survey and six (6) cores through existing pavements along Route 45 and Prairie Road.

General

This report was prepared on the basis of the project information supplied by the client and is only intended for use on that project. Changes in the grades or alignment of the project should be submitted for our review since changes of this kind may cause changes in our recommendations.

FROM / REPLY TO:
102 WEST ILLINOIS STREET, SUITE D
☐ ST. CHARLES, ILLINOIS 60174
630-377-3270 • FAX: 630-377-3585

1612 LANDMEIER ROAD, UNIT C
☒ ELK GROVE VILLAGE, ILLINOIS 60007
847-228-1079 • FAX: 847-228-0633

4041 ALBANY STREET, UNIT 4
☐ McHENRY, ILLINOIS 60050
815-385-8351 • FAX: 815-385-

The report was prepared by interpreting the data from the test borings and field tests made along the proposed improvement and from the results of the laboratory tests on the subsoil samples taken from there. The report gives a representative, but not exhaustive picture of the project subsoil make-up.

The soil engineer warrants findings, recommendations, specifications, and professional advice to have been promulgated with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology.

Reference Documents

This soils exploration and survey was performed in accordance with the current State of Illinois, Specification for Soil Survey; Plan preparation Advisory Number 8-3-002 and the Soils Manual.

PROJECT LOCATION AND DESCRIPTION

Project Location

The project is located in Lake County, Vernon Township, Section 9, T43N, R11E, within the Village limits of Vernon Hills, Illinois. Refer to the Project Vicinity Map, Figure 1.

Project Description

The project includes the construction of a new alignment for the extension of Fairway Drive from Prairie Road at U.S. Route 45, north to the southern border of the former U.S. Government (NIKE) site. Widening of Route 45 to construct turn lanes and realignment of Prairie Road from the bridge over Indian Creek is included in the project.

The construction of Fairway Drive through the NIKE site is not included in this report.

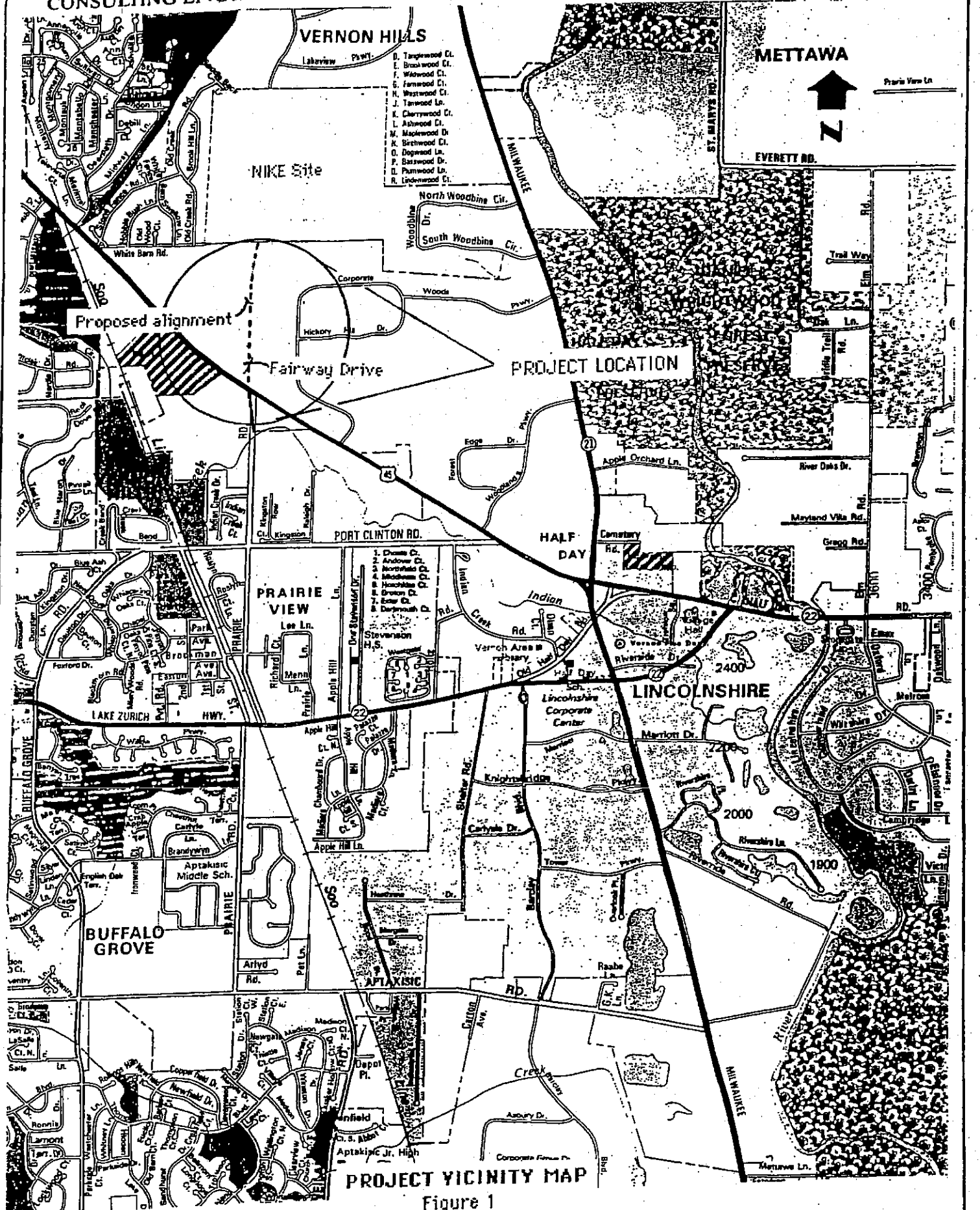
Climatological Data

The field work for this soil survey was accomplished during the second week of February, 1999. The tables below lists the actual precipitation as measured at O'Hare International Airport by NOAA.

Month	Actual Precipitation	Departure From Normal
August, 1998	6.88"	+2.66"
September, 1998	2.34"	-1.48"
October, 1998	5.22"	+2.81"
November, 1998	2.00"	-0.92"
December, 1998	0.20"	-1.27"
January, 1999	4.47"	+2.94"

SCHLEEDE HAMPTON ASSOCIATES, INC.

CONSULTING ENGINEERS



PROJECT VICINITY MAP

Figure 1

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Site Geology

Geologically the project lies within the Park Ridge Moraine, part of the Lake Border Moranic System. The Lake Border Moraine is part of the Wadsworth Member of the Wedron Formation, largely composed of clayey and silty clayey till, relatively low in content of pebbles, cobbles and boulders,; containing local lenses of silt, mantled with loess.

General

The procedures for this exploration were conducted in general accordance with the appropriate Illinois Department of Transportation Standards. The borings were supervised at all times by a field engineer from the office of Schleede-Hampton Associates, Inc. The soil specimens obtained were transported to our laboratory for testing and analysis. All phases of this investigation have been directed by our project engineer.

Soil Drilling and Sampling Procedures

The soil profile borings were performed with a drilling rig equipped with a rotary head. Continuous flight augers were used to advance the holes. The augers were advanced with a minimum of rotation to avoid disturbance of the soil profile and frequently retracted for logging and sampling purposes. Representative samples were obtained from the soil retained in the auger's spiral flights. A calibrated hand penetrometer was used to aid in determining the strength and consistency of cohesive soil samples (Qp). All borings were backfilled with soil cuttings following the drilling operations.

Water Level Measurements - Water level observations were made during and after the boring operations and are noted on the boring logs presented herewith. In relatively pervious soils, such as sandy soils, the indicated elevations are considered reliable groundwater levels. In relatively impervious soils, the accurate determination of the groundwater elevation may not be possible, even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the levels of the groundwater table, and volumes of water will depend on the permeability of the soils.

Laboratory Testing

A supplemental testing program was conducted to ascertain additional pertinent engineering characteristics of the subgrade and foundation materials. The soils laboratory work was performed in accordance with applicable ASTM and IDOT standards. The laboratory testing program included visual classification, unconfined compression testing and moisture contents were performed on each sample obtained.

The results of testing are presented on the Records of Subsurface Exploration (Boring Logs) presented in the Appendix to this report.

The soils encountered in the borings have been classified using both the IDOT Textural Classification System, and the AASHTO Engineering Soil Classification System (AASHTO, M-145).

PAVEMENT & SUBSURFACE CONDITIONS

Pavement Conditions

Cores were made along the existing alignments of U.S. Route 45 and Prairie Road. In general the Prairie Road pavements were found to be comprised of 7-1/4" to 8-7/8" of Bituminous Concrete over 7-1/4" to 10" of Granular Base at the core C-1 and C-2 locations. The pavement consisted of multiple lifts of bituminous binder and surface courses. Crack control (e.g.. petromat) fabric was noted beneath the top surface course at both core locations. The materials were noted to be in poor to good condition. U.S. Route 45 pavements were found to be comprised of 5-1/8" to 9-1/4" of Bituminous Concrete over 7" to 9" of Portland Cement Concrete The PCC pavements were noted to be in poor condition and were overlaid with multiple lifts of Bituminous Concrete which was observed to generally be in fair to poor condition. No granular base was encountered beneath the PCC at the core locations.

Details of the pavement materials encountered are presented on the 'Pavement Core Measurement Log', included in the Appendix to this report.

Subgrade Conditions

The subgrade soils encountered along the alignments were predominantly classified as Silty Clay LOAM, A-6(8 to 14), Clay LOAM, A-6(8) and LOAM, A-6(7). The materials were generally found to be stiff in consistency with typical unconfined compressive strengths as measured with a hand penetrometer of 1.0 to 1.5 tsf at a moisture content of 15%± to 25%±. Surficial soils, dark in coloration were encountered in areas along the alignment. These materials are classified as Silty CLAY to CLAY, A-7-6(29) possessing an organic content of 3.0% to 4.9% at a moisture content of 21% to 28%.

Details of the materials encountered and laboratory test results are presented on the 'Soil Profiles' and Soil Test Data BD-508A included in the Appendix to this report.

Groundwater Conditions

Groundwater was encountered during drilling at a depth of 8.0' at boring location B-1. Upon completion the water was noted at a depth of 7.6'. At boring B-4, water was encountered at a depth of 10", perched in the saturated granular surface course of a temporary pavement. Upon completion the water was noted a depth of 6". The remaining borings were dry during and immediately upon completion of the boring operations. All boreholes were backfilled upon completion of drilling.

Roadway Subgrade Conditions

In general the subgrade soils were found to be moist, slightly above the optimum required for compaction. Treatments along the proposed alignment will include disking, drying and recompaction; undercut of the lower strength subgrade soils in isolated areas; and replacement of the undercut materials to design subgrade elevation with a selected fill material. Reducing the moisture of the materials through disking and drying is considered practical along the new Fairway Drive alignment. Drying and recompaction of the subgrade soils can be expected to improve the subgrade stability.

Frost Susceptibility of Subgrade Soils

The susceptibility of the subgrade soils to excessive frost action has been reviewed. The subgrade materials generally do not possess properties that may be considered frost susceptible. The fine sand and silt content (59 to 75%) ranges slightly above the minimum (65%) considered for frost susceptibility. The plasticity index was above the minimum (12%) considered frost susceptible ranging from 14 to 35%. and no groundwater was encountered within the depth of frost penetration.

General Earthwork and Roadway Subgrade Preparation

All earthwork excavation, embankment and subgrade preparation should be conducted in accordance with the requirements of Sections 200 and 300 of the current IDOT "Standard Specifications for Road and Bridge Construction".

Remedial Treatment Areas

All undercuts must be verified by cone penetrometer tests on the subgrade during construction in accordance with the guidelines in the Illinois Department of Transportation "Subgrade Stability Manual". Areas that were identified by the borings as needing additional treatment are summarized on the following tabulation.

Summary of Special Earthwork Remedial Treatment Areas

Location	Replacement Indicated By	Depth	Treatment Width	Treatment Mat'l[2]
US Route 45				
Sta. 506+50 to Sta. 510+50 (B-20)	Qp=0.5 tsf Mc=38%	18"[1]	Widening	GES or PGES
Sta. 510+50 to Sta. 513+50 (B-19)	Qp=1.0 tsf Mc=26%	12"[1]	Widening	GES or PGES
Sta. 513+50 to Sta. 516+50 (B-18)	No treatment indicated			
Sta. 516+50 to Sta. 519+50 (B-17)	No treatment indicated			
Sta. 519+50 to Sta. 522+50 (B-16)	No treatment indicated			
Sta. 522+50 to Sta. 525+50 (B-15)	Qp=1.0 tsf Mc=18%	12"[1]	Widening	GES or PGES

Summary of Special Earthwork Remedial Treatment Areas
(continued)

Location	Replacement Indicated By	Depth	Treatment Width	Treatment Mat'l[2]
US Route 45				
Sta. 525+50 to Sta. 528+50 (B-14)	Qp=1.0 tsf Mc=17%	12"[1]	Widening	GES or PGES
Sta. 528+50 to Sta. 531+40 (B-13)	Qp=1.0 tsf Mc=17%	12"[1]	Widening	GES or PGES
Prairie Road Realignment				
Sta. 102+70 to Sta. 105+38 (B-1)	Qp=1.5 tsf Mc=15%	10"[1]	Exist. Embankment[3]	EMB or PGES
Sta. 105+38 to Sta. 108+40 (B-2)	Qp=1.5 tsf Mc=17%	10"[1]	Exist. Embankment[3]	EMB or PGES
Sta. 108+40 to Sta. 111+50 (B-3)	Qp=0.5 tsf Mc=21%	18"[1]	Exist. Embankment[3]	EMB or PGES
Fairway Drive Extension				
Sta. 111+50 to Sta. 113+68 (B-4)	Qp=1.5 tsf Mc=26%	10"[1]	Full Width	EMB or PGES
Sta. 113+68 to Sta. 116+68 (B-5)	Qp=1.0 tsf Mc=19%	12"[1]	Full Width	EMB or PGES
Sta. 116+68 to Sta. 119+22 (B-6)	Qp=0.5 tsf Mc=16%	18"[1]	Full Width	EMB or PGES
Sta. 119+22 to Sta. 122+23 (B-7)	Qp=1.5 tsf Mc=17%	10"[1]	Full Width	EMB or PGES
Sta. 122+23 to Sta. 125+68 (B-8)	No treatment indicated			

Summary of Special Earthwork Remedial Treatment Areas
(continued)

Location	Replacement Indicated By	Depth	Treatment Width	Treatment Mat'l[2]
Fairway Drive				
Sta. 125+68 to Sta. 128+68 (B-9)	Qp=1.0 tsf Mc=23%	12"[1]	Full Width	EMB or PGES
Sta. 128+68 to Sta. 131+68 (B-10)	No treatment indicated			
Sta. 131+68 to Sta. 134+68 (B-11)	Qp=0.75 to 1.25 tsf Mc=19 to 27%	12"[1]	Full Width	EMB or PGES
Sta. 134+68 to Sta. 135+50 (B-12)	Qp=1.0 tsf Mc=28%	12"[1]	Full Width	EMB or PGES

[1] = Depth refers to depth of remedial treatment below the design subgrade elevation.

[2] = Replacement Materials or Treatment:
Embankment Material and placement in accordance with Sections 205, 206 and 207
EMB - Embankment (205)
GES - Granular Embankment Special (206)
PGE - Porous Granular Embankment (207)
PGES - Porous Granular Embankment Special

Subgrade Treatment Plan Notes

Porous Granular Embankment, Subgrade (PGES) has been provided for use at the locations indicated for soils that tend to be unsuitable or unstable. The actual need for removal and replacement with PGES will be determined in the field at the time of construction by the geotechnical engineer. All potentially unstable soils should be tested with a static cone penetrometer and treated in accordance with Article 301.03 and the undercut guidelines in the IDOT Subgrade Stability Manual. If unstable and/or unsuitable material is encountered, the soil shall be removed and replaced with PGES or Embankment as determined by the geotechnical engineer. If unstable and/or unsuitable material is not encountered, then the quantity shall be deducted and no additional compensation will be due to the contractor.

Transverse underdrains should be placed at the low points of the profile grade of the roadway to drain the Aggregate Subgrade and at the low points of all undercuts replaced with PGES. The pipe underdrains should be placed at a depth of 48 inches below the top of the proposed pavement. FA-1 or FA-2 should be used as backfill for these excavations.

Closure

Thank you for the opportunity to be of continuing service. Please contact us if you have any questions regarding the information contained in this report.

Very truly yours,

SCHLEEDE-HAMPTON ASSOCIATES, INC.

William D. Prigge, P.E.
Project Manager

Appendix

APPENDIX

SOIL PROFILE SHEETS 1 through 5

PAVEMENT CORE MEASUREMENT LOG
C-1 through C-6

SOIL TEST DATA SHEET BD-508A

SOIL COMPACTION TEST GRAPH

ILLINOIS BEARING RATIO TEST DATA

SUMMARY REPORT ON PAVEMENT, BASE AND SUB-BASE DESIGN

SCHLEEDE HAMPTON ASSOCIATES, INC.
CONSULTING ENGINEERS

SHA File No. 48386

PAVEMENT CORE MEASUREMENT LOG

Fairway Drive Extension

Core No. C-1
Location Prairie Road. 95' north of bridge over Indian Creek, northbound lane.

Material	Depth(in.)	Thickness(in.)	Remarks/Condition
Bituminous Surface	0 to 2- 1/8	2- 1/8	Good
Petromat	2- 1/8 to 3- 3/8	1- 1/4	Fair
Bituminous Surface	3- 3/8 to 4- 3/4	1- 3/8	Fair
Bituminous Binder	4- 3/4 to 7- 1/4	2- 1/2	Poor
Granular Subbase	7- 1/4 to 14- 1/2	7- 1/4	Crushed Limestone Gravel
Subgrade	14-1/2+		Silty CLAY, brown and grey, A-6
			Qp = 4.25 tsf, Mc = 16%

Core No. C-2
Location Prairie Road, Station 109+88, southbound lane.

Material	Depth(in.)	Thickness(in.)	Remarks/Condition
Bituminous Surface	0 to 1- 1/2	1- 1/2	Good
Petromat			
Bituminous Surface	1- 1/4 to 2- 5/8	1- 3/8	Fair
Bituminous Surface	2- 5/8 to 3- 3/8	3/4	Fair
Bituminous Surface	3- 3/8 to 5- 1/8	1- 3/4	Fair
Bituminous Binder	5- 1/8 to 8- 7/8	3- 3/4	Poor
Granular Subbase	8- 7/8 to 18- 7/8	10	Crushed Limestone Gravel
Subgrade	18-7/8+		Silty CLAY, brown and grey, A-6
			Qp = 1.5 tsf, Mc = 19%

Core No. C-3
Location U.S. Route 45, Station 530+00, northwest bound lane.

Material	Depth(in.)	Thickness(in.)	Remarks/Condition
Bituminous Surface	0 to 1- 5/8	1- 5/8	Fair
Petromat	1- 5/8 to 2- 1/2	7/8	Poor
Bituminous Surface	2- 1/2 to 4- 1/4	1- 3/4	Poor
Bituminous Binder	4- 1/4 to 5- 1/2	1- 1/4	Poor
Bituminous Binder	5- 1/2 to 7- 3/4	2- 1/4	Poor
Bituminous Binder	7- 3/4 to 9- 1/4	1- 1/2	Poor
Portland Cement Concrete	9- 1/4 to 18- 3/4	9- 1/2	Poor - Deteriorated
Subgrade	18-3/4+		Silty CLAY, brown and grey, A-6
			Qp = N/A, Mc = N/A

Core No. C-4
Location U.S. Route 45, Station 524+00, northwest bound lane.

Material	Depth(in.)	Thickness(in.)	Remarks/Condition
Bituminous Surface	0 to 2- 1/4	2- 1/4	Fair
Bituminous Surface	2- 1/4 to 3- 3/4	1- 1/2	Fair
Bituminous Binder	3- 3/4 to 5- 1/4	1- 1/2	Fair
Bituminous Surface	5- 1/4 to 6- 3/4	1- 1/2	Fair
Bituminous Binder	6- 3/4 to 8- 3/8	1- 5/8	Fair
Portland Cement Concrete	8- 3/8 to 16- 3/8	8	Poor
Subgrade	18-3/8+		Silty CLAY, brown and grey, A-6
			Qp = 2.5 tsf, Mc = 30%

SCHLEEDE HAMPTON ASSOCIATES, INC.
CONSULTING ENGINEERS

SHA File No. 48386

PAVEMENT CORE MEASUREMENT LOG

Fairway Drive Extension

Core No. C-5
Location U.S. Route 45, Station 515+00, southeast bound lane.

Material	Depth(in.)	Thickness(in.)	Remarks/Condition
Bituminous Surface	0 to 1- 5/8	1- 5/8	Good
Bituminous Surface	1- 5/8 to 2- 1/2	7/8	Fair
Bituminous Surface	2- 1/2 to 3- 5/8	1- 1/8	Fair
Bituminous Surface	3- 5/8 to 5- 1/4	1- 5/8	Fair
Bituminous Binder	5- 1/4 to 6- 7/8	1- 5/8	Fair
Portland Cement Concrete	6- 7/8 to 14- 3/8	7- 1/2	Poor
Subgrade	14-3/8+		Silty CLAY, brown and grey, A-6
			Qp = 0.5 tsf, Mc = 21%

Core No. C-6
Location U.S. Route 45, Station 509+00, southeast bound lane.

Material	Depth(in.)	Thickness(in.)	Remarks/Condition
Bituminous Surface	0 to 1- 3/8	1- 3/8	Fair
Bituminous Surface	1- 3/8 to 2- 1/2	1- 1/8	Fair
Bituminous Surface	2- 1/2 to 3- 1/4	3/4	Fair
Bituminous Surface	3- 1/4 to 5- 1/8	1- 7/8	Poor
Portland Cement Concrete	5- 1/8 to 12- 1/8	7	Poor
Subgrade	12-1/8+		Silty CLAY, brown and grey, A-6
			Qp = 2.25, Mc = 25%

BD-508A
REV. 2-65
Mod.12-90SHA

STATE OF ILLINOIS
Department of Public Works and Buildings
Divison of Highways

SOIL TEST DATA

SHA JOB NUMBER: 48386 ROUTE: -- PROJECT: Fairway Dr. Extension
SECTION: CITY: Vernon Hills
COUNTY: Lake
Fairway Drive

LAB. NO.	B-1/S-1	B-3/S-1	B-4/S-1	B-5/IBR	B-7/S-1	B-9/S-1
STATION	103+88	109+88	112+18	115+18	120+25	127+18
OFFSET	15'R	55'R	CL	CL	CL	CL
DEPTH	1.0'	1.0'	1.0'	1.0'-3.0'	1.0'	1.0'
HRB CLASSIFICATION	A-6 (7)	A-6 (11)	A-7-6	A-6 (13)	A-6 (13)	A-7-6 (29)
GRAIN SIZE CLASSIFICATION	LOAM	Silty Clay LOAM	Silty CLAY	Silty Clay LOAM	Silty Clay LOAM	CLAY
GRADATION-PASSING 1" SIEVE %	100	100	--	100	100	100
" 3/4" %	100	100	--	100	100	100
" 1/2" %	100	100	--	100	100	100
" NO. 4 %	96	100	--	99	100	100
" NO. 10 %	90	100	--	97	100	100
" NO. 40 %	77	96	--	92	97	96
" NO. 100 %	63	88	--	86	90	88
" NO. 200 %	58	83	--	81	86	83
SAND %	32	17	--	16	14	17
SILT %	40	62	--	51	58	50
CLAY %	18	21	--	30	28	33
LIQUID LIMIT %	32	33	--	34	34	52
PLASTICITY INDEX %	17	14	--	18	16	35
BEARING RATIO %	--	--	--	4.6	--	--
STD. DRY DENSITY AASHTO T99 pcf	--	--	--	112.8	--	--
OPTIMUM MOISTURE %	--	--	--	15.6	--	--

REMARKS:

ORGANIC CONTENT T-194 % 3.1

BD-508A
REV. 2-65
Mod.12-90SHA

STATE OF ILLINOIS
Department of Public Works and Buildings
Divison of Highways

SOIL TEST DATA

SHA JOB NUMBER: 48386
SECTION: Fairway Drive

ROUTE: --
CITY: Vernon Hills
COUNTY: Lake

PROJECT: Fairway Dr. Extension
U.S. Route 45

LAB. NO.	B-10/S-2	B-12/S-1	B-14/S-1	B-18/S-1	B-20/S-1	
STATION	130+18	136+18	527+00	515+00	509+00	
OFFSET	CL	CL	20'L	20'L	17'R	
DEPTH	3.0'	1.0'	1.0'	1.0'	1.0'	
HRB CLASSIFICATION	A-6 (8)	A-7-6	A-6 (8)	A-6 (14)	A-6 (8)	
GRAIN SIZE CLASSIFICATION	Silty Clay LOAM	Silty CLAY	Clay LOAM	Silty Clay LOAM	Silty LOAM	
GRADATION-PASSING 1" SIEVE %	100	--	100	100	100	
" 3/4" %	100	--	100	100	100	
" 1/2" %	100	--	100	100	100	
" NO. 4 %	99	--	97	100	98	
" NO. 10 %	97	--	92	98	94	
" NO. 40 %	90	--	83	92	86	
" NO. 100 %	84	--	75	82	76	
" NO. 200 %	80	--	72	78	72	
SAND %	17	--	20	20	22	
SILT %	56	--	48	51	53	
CLAY %	24	--	24	27	19	
LIQUID LIMIT %	35	--	35	37	30	
PLASTICITY INDEX %	15	--	17	17	15	
BEARING RATIO %	--	--	--	--	--	
STD. DRY DENSITY AASHTO T99 pcf	--	--	--	--	--	
OPTIMUM MOISTURE %	--	--	--	--	--	

REMARKS:

ORGANIC CONTENT T-194	%		4.8	3.0		4.9

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

1612 LANDMEIER ROAD, SUITE C, ELK GROVE VILLAGE, IL 60007 (847) 228-1079

SOIL COMPACTION TEST GRAPH

PROJECT: Prairie Road/Fairway Drive Extension

LOCATION: Vernon Hills, Illinois

CLIENT: Civiltech Engineering, Inc.

REPORT NO. 1 MDR

DATE: 3/1/99

OUR JOB NO. 48386

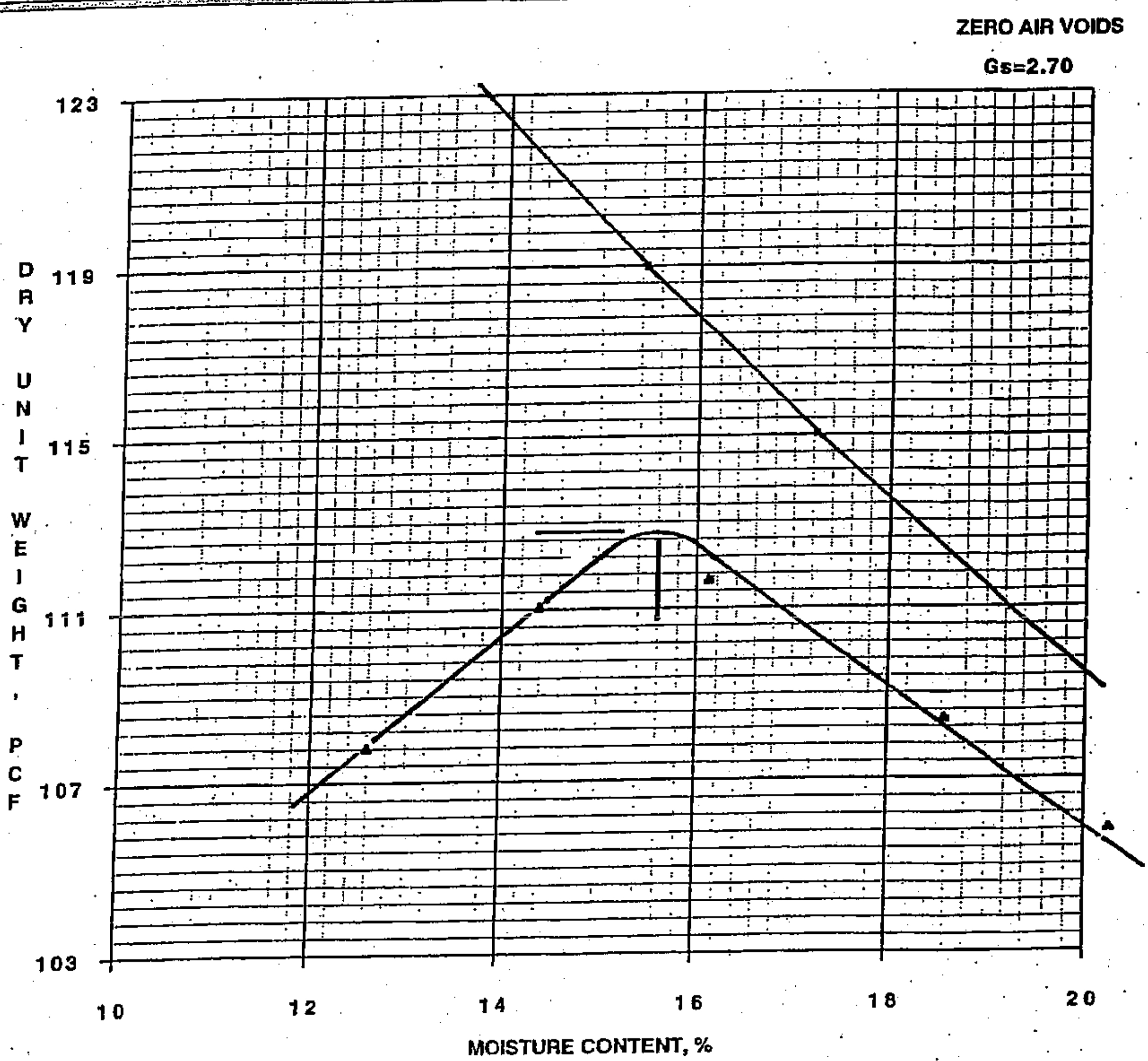
DESCRIPTION OF SOIL: Silty Clay LOAM, A-6(13)

TEST PROCEDURE: ASTM D 698

MATERIAL SOURCE: B-5, 1'-3'

TEST RESULTS: MAXIMUM DRY DENSITY 112.8 PCF

OPTIMUM MOISTURE 15.6%



Tested By: Y. Beisler

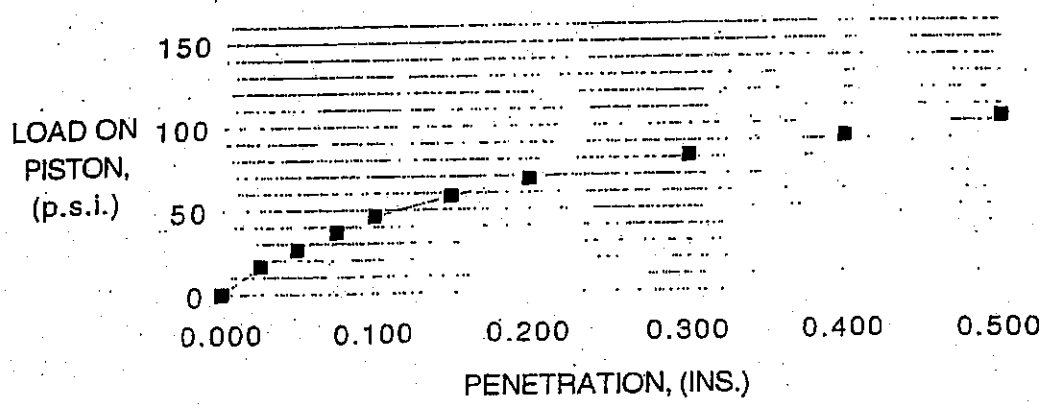
Submitted By: [signature]

FILE NO.:	48386
PROJECT NAME:	PRAIRIE ROAD/FAIRWAY DRIVE EXTENSION
SAMPLE I.D.:	B-5, 1'-3'
CLASSIFICATION:	Silty Clay LOAM, A-6(13)
MAX.UNIT WT.:	112.8 P.C.F.
OPT. M.C.:	15.6 %
TEST UNIT WT.:	106.9 P.C.F.
TEST INIT. M.C.:	18.3 %
TEST% of MAX.	94.8 %

RAW LOAD/PENETRATION DATA		
Penetration, (INS.)	Dial Gage ReadingX0.001	Load,lbs
0	0.00	0.0
0.025	23.00	48.5
0.05	38.00	80.2
0.075	52.00	109.7
0.1	66.00	139.3
0.15	82.50	174.1
0.2	97.00	204.7
0.3	115.50	243.7
0.4	130.50	275.4
0.5	146.00	308.1

IBR RESULTS TO GRAPH		
Penetration, (INS.)	Load on Piston, (PSI)	IBR, @penetration
0.000	0	
0.025	16	
0.050	27	
0.075	37	
0.100	46	4.6%
0.150	58	
0.200	68	4.5%
0.300	81	
0.400	92	
0.500	103	

Graph of Load vs. Penetration



SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

SUMMARY REPORT ON PAVEMENT, BASE AND SUB-BASE DESIGN

SHA JOB NO. 48386 PROJECT FAIRWAY DRIVE ROUTE _____

SECT# _____ COUNTY LAKE DATE Nov-99

ADT _____ CLASS _____ YEAR _____ DESIGN PERIOD _____

CARS PC/DAY _____ TRUCKS SU/DAY _____ TRUCKS MU/DAY _____

PAVEMENT STRUCTURE:

TYPE OF SURFACE COURSE _____ THICKNESS _____

TYPE OF BASE COURSE _____ THICKNESS _____

TYPE SUB-BASE MATERIAL _____ THICKNESS _____

U.S. ROUTE 45

STA. TO STA.	506+50 to 510+50	510+50 to 513+50	513+50 to 522+50	522+50 to 525+50
*STATION OF TEST	509+00	512+00	515+00	524+00
*DRAINAGE CLASS	FAIR	FAIR	FAIR	FAIR
*AVE FROST PENETRATION	30" to 36"	30" to 36"	30" to 36"	30" to 36"
GRAIN SIZE CLASSIFICATION	Silty LOAM	Silty CLAY	Silty Clay LOAM	Silty CLAY
HRB CLASS & GROUP INDEX	A-6(8)	A-6	A-6(14)	A-6
PERCENT SILT	53		51	
DRY DENSITY AASHTO T-99				
BEARING RATIO				
OPTIMUM MOISTURE				
REMARKS: **Indicates Similar Soil Tested DSE-Design Subgrade DFG-Design Finish Grade GES-Granular Embankment Special Special Mat'l Sect. 206 PGES-Porous Gran. Embankment Special	Undercut 18" from DSE in widening Apply Sect. 301.03	Undercut 12" from DSE in widening Apply Sect. 301.03	Apply Sect. 301.03	Undercut 12" from DSE in widening Apply Sect. 301.03

*INDICATES WORST CONDITION WITHIN THE ABOVE STATION LIMITS

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

SUMMARY REPORT ON PAVEMENT, BASE AND SUB-BASE DESIGN

SHA JOB NO. 48386 PROJECT FAIRWAY DRIVE ROUTE _____

SECT# _____ COUNTY LAKE DATE Nov-99

ADT _____ CLASS _____ YEAR _____ DESIGN PERIOD _____

CARS PC/DAY _____ TRUCKS SU/DAY _____ TRUCKS MU/DAY _____

PAVEMENT STRUCTURE:

TYPE OF SURFACE COURSE _____ THICKNESS _____

TYPE OF BASE COURSE _____ THICKNESS _____

TYPE SUB-BASE MATERIAL _____ THICKNESS _____

	U.S. ROUTE 45		PRAIRIE ROAD	
STA. TO STA.	525+50 to 528+50	528+50 to 531+40	102+70 to 105+38	105+38 to 108+40
*STATION OF TEST	527+00	530+00	103+88	106+88
*DRAINAGE CLASS	FAIR	FAIR	FAIR TO POOR	FAIR TO POOR
*AVE FROST PENETRATION	30" to 36"	30" to 36"	30" to 36"	30" to 36"
GRAIN SIZE CLASSIFICATION	Clay LOAM	Clay LOAM	LOAM	Silty CLAY
HRB CLASS & GROUP INDEX	A-6(8)	A-6	A-6(7)	A-6
PERCENT SILT	48		40	
DRY DENSITY AASHTO T-99				
BEARING RATIO				
OPTIMUM MOISTURE				
REMARKS: **Indicates Similar Soil Tested DSE-Design Subgrade EMB-Embankment Mat'l Sect. 205 GES-Granular Embankment Special Mat'l Sect. 206 PGES-Porous Gran. Embankment Special	Undercut 12" from DSE in widening Apply Sect. 301.03	Undercut 12" from DSE in widening Apply Sect. 301.03	Undercut 10" from DSE in existing embankment, possible PGES in widening, (24")fill to grade w/EMB	Undercut 10" from DSE in existing embankment, possible PGES in widening, (24")fill to grade w/EMB

*INDICATES WORST CONDITION WITHIN THE ABOVE STATION LIMITS

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

SUMMARY REPORT ON PAVEMENT, BASE AND SUB-BASE DESIGN

SHA JOB NO. 48386 PROJECT FAIRWAY DRIVE ROUTE _____

SECT# _____ COUNTY LAKE DATE Nov-99

ADT _____ CLASS _____ YEAR _____ DESIGN PERIOD _____

CARS PC/DAY _____ TRUCKS SU/DAY _____ TRUCKS MU/DAY _____

PAVEMENT STRUCTURE:

TYPE OF SURFACE COURSE _____ THICKNESS _____

TYPE OF BASE COURSE _____ THICKNESS _____

TYPE SUB-BASE MATERIAL _____ THICKNESS _____

	PRAIRIE ROAD	FAIRWAY DRIVE		
STA. TO STA.	108+40 to 111+50	111+50 to 113+68	113+68 to 116+68	116+68 to 119+22
*STATION OF TEST	109+88	112+18	115+18	118+18
*DRAINAGE CLASS	FAIR TO POOR	FAIR	FAIR	FAIR
*AVE FROST PENETRATION	30" to 36"	30" to 36"	30" to 36"	30" to 36"
GRAIN SIZE CLASSIFICATION	Silty Clay LOAM	Silty CLAY	Silty Clay LOAM	Silty CLAY
HRB CLASS & GROUP INDEX	A-6(11)	A-7-6	A-6(13)	A-6
PERCENT SILT	62		51	
DRY DENSITY AASHTO T-99			112.8	
BEARING RATIO			4.6	
OPTIMUM MOISTURE			15.6	
REMARKS: **Indicates Similar Soil Tested DSE-Design Subgrade EMB-Embankment Mat'l Sect. 205 GES-Granular Embankment Special Mat'l Sect. 206 PGES-Porous Gran. Embankment Special	Undercut 18" from DSE in existing embankment, possible PGES in widening, (24")fill to grade w/EMB	Apply Sect. 301.03 Undercut 10" from DSE in widening Fill to DSE w/ EMB	Apply Sect. 301.03 Undercut 12" from DSE in widening Fill to DSE w/ EMB	Apply Sect. 301.03 Undercut 18" from DSE in widening Fill to DSE w/ EMB

*INDICATES WORST CONDITION WITHIN THE ABOVE STATION LIMITS

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

SUMMARY REPORT ON PAVEMENT, BASE AND SUB-BASE DESIGN

SHA JOB NO. 48386 PROJECT FAIRWAY DRIVE ROUTE _____

SECT# _____ COUNTY LAKE DATE Nov-99

ADT _____ CLASS _____ YEAR _____ DESIGN PERIOD _____

CARS PC/DAY _____ TRUCKS SU/DAY _____ TRUCKS MU/DAY _____

PAVEMENT STRUCTURE:

TYPE OF SURFACE COURSE _____ THICKNESS _____

TYPE OF BASE COURSE _____ THICKNESS _____

TYPE SUB-BASE MATERIAL _____ THICKNESS _____

FAIRWAY DRIVE

STA. TO STA.	119+22 to 122+23	122+23 to 125+68	125+68 to 128+68	128+68 to 131+68
*STATION OF TEST	120+25	124+18	127+18	130+18
*DRAINAGE CLASS	FAIR	FAIR	FAIR	FAIR
*AVE FROST PENETRATION	30" to 36"	30" to 36"	30" to 36"	30" to 36"
GRAIN SIZE CLASSIFICATION	Silty Clay LOAM	Silty CLAY	CLAY	Silty Clay LOAM
HRB CLASS & GROUP INDEX	A-6(13)	A-6	A-7-6(29)	A-6(8)
PERCENT SILT	58		50	56
DRY DENSITY AASHTO T-99				
BEARING RATIO				
OPTIMUM MOISTURE				
REMARKS: **Indicates Similar Soil Tested DSE-Design Subgrade EMB-Embankment Mat'l Sect. 205 GES-Granular Embankment Special Mat'l Sect. 206 PGES-Porous Gran. Embankment Special	Apply Sect. 301.03 Undercut 10" from DSE in widening Fill to DSE w/ EMB	Apply Sect. 301.03	Apply Sect. 301.03 Undercut 12" from DSE in widening Fill to DSE w/ EMB	Apply Sect. 301.03

*INDICATES WORST CONDITION WITHIN THE ABOVE STATION LIMITS

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

SUMMARY REPORT ON PAVEMENT, BASE AND SUB-BASE DESIGN

SHA JOB NO. 4.8386 PROJECT FAIRWAY DRIVE ROUTE _____

SECT# _____ COUNTY LAKE DATE Nov-99

ADT _____ CLASS _____ YEAR _____ DESIGN PERIOD _____

CARS PC/DAY _____ TRUCKS SU/DAY _____ TRUCKS MU/DAY _____

PAVEMENT STRUCTURE:

TYPE OF SURFACE COURSE _____ THICKNESS _____

TYPE OF BASE COURSE _____ THICKNESS _____

TYPE SUB-BASE MATERIAL _____ THICKNESS _____

	FAIRWAY DRIVE			
STA. TO STA.	131+68 to 135+50			
*STATION OF TEST	136+18			
*DRAINAGE CLASS	FAIR			
*AVE FROST PENETRATION	30" to 36"			
GRAIN SIZE CLASSIFICATION	Silty CLAY			
HRB CLASS & GROUP INDEX	A-7-6			
PERCENT SILT				
DRY DENSITY AASHTO T-99				
BEARING RATIO				
OPTIMUM MOISTURE				
REMARKS: **Indicates Similar Soil Tested DSE-Design Subgrade EMB-Embankment Mat'l Sect. 205 GES-Granular Embankment Special Mat'l Sect. 206 PGES-Porous Gran. Embankment Special	Apply Sect. 301.03 Undercut 12" from DSE in widening Fill to DSE w/ EMB			

*INDICATES WORST CONDITION WITHIN THE ABOVE STATION LIMITS

Fairway Dr. CMAQ
Proj. # 1129
Supplemental

SCHLEEDE HAMPTON ASSOCIATES INC

CONSULTING ENGINEERS

• CIVIL • GEOTECHNICAL • CONSTRUCTION MATERIALS • CONSULTANTS •

SCHLEEDE HAMPTON ASSOCIATES INC

CONSULTING ENGINEERS

April 6, 2001

Mr. Roger Machut, P.E.
Civiltech Engineering, Inc.
500 Park Boulevard
Suite 250
Itasca, Illinois 60143

Re: Geotechnical Exploration and Analysis
US Route 45 (CMAQ Funded Portion)
Vernon Hills, Illinois
SHA File No. 71210

Dear Mr. Machut:

We have completed the field exploration work and analysis of the subgrade conditions and for proposed improvements for the above referenced project. This report was prepared for your use in preparing the project design plans.

Purpose

The purpose of this exploration was to determine the types of soil encountered at the proposed subgrade elevation and to determine the presence of problem subgrade materials that may require special treatments. Using this information along with the project data provided, design criteria and recommendations for earthwork and subgrade treatment have been prepared for use by the Design Engineers in preparing the plans and specifications.

Scope

The scope of this exploration and analysis included review of previously conducted soils reports and analysis, subsurface exploration, field and laboratory testing, analysis of the data obtained, formulation of our recommendations and preparation of this report. The field exploration for this project included making two (2) profile borings (B-50 and B-51) along the alignment extended northwest of the initial end of the project to include widening on the 'south' side of the road. This report should be considered supplemental to the analysis and recommendations provided for the proposed improvements to US Route 45, SHA File No. 48386, dated November 9, 1999.

FROM / REPLY TO:
102 WEST ILLINOIS STREET, SUITE D
☐ ST. CHARLES, ILLINOIS 60174
630-377-3270 • FAX: 630-377-3585

1612 LANDMEIER ROAD, UNIT C
☐ ELK GROVE VILLAGE, ILLINOIS 60007
847-228-1079 • FAX: 847-228-0633

4041 ALBANY STREET, UNIT 4
☐ McHENRY, ILLINOIS 60050
815-385-8351 • FAX: 815-385-8456

General

This report was prepared on the basis of the project information supplied by the client and is only intended for use on that project. Changes in the grades or alignment of the project should be submitted for our review since changes of this kind may cause changes in our recommendations.

The report was prepared by interpreting the data from the test borings and field tests made along the proposed improvement and from the results of the laboratory tests on the subsoil samples taken from there. The report gives a representative, but not exhaustive picture of the project subsoil make-up.

The soil engineer warrants findings, recommendations, specifications, and professional advice to have been promulgated with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology.

Reference Documents

This soils exploration and survey was performed in accordance with the current State of Illinois, Geotechnical Manual, January, 1999.

PROJECT LOCATION AND DESCRIPTION

Project Location

The project is located in Lake County, Vernon Township, Section 9, T43N, R11E, within the Village limits of Vernon Hills, Illinois. Refer to the Project Vicinity Map, Figure 1.

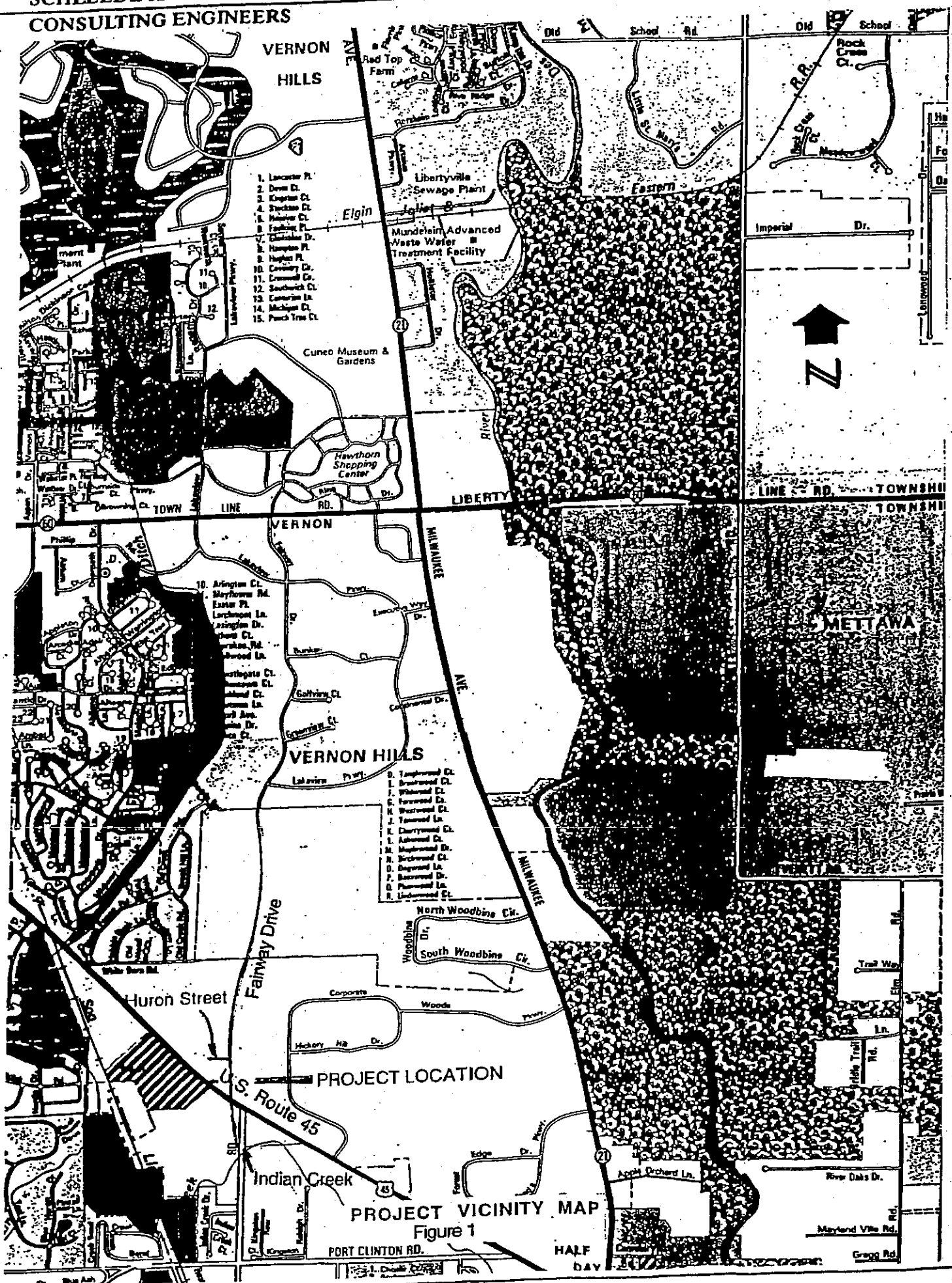
Project Description

The project includes the construction of a new alignment of Fairway Drive from Indian Creek, north past US Route 45 to Huron Street and the widening of US Route 45 northwest and southeast of Fairway Drive. This supplemental report includes recommendations for the 'northwest' end of the Route 45 improvements.

Climatological Data

The field work for this soil survey was accomplished during the second week of February, 2001. The tables below lists the actual precipitation as measured at O'Hare International Airport by NOAA.

Month	Actual Precipitation	Departure From Normal
August, 2000	2.26"	-1.96"
September, 2000	3.59"	-0.23"
October, 2000	1.12"	-1.29"
November, 2000	2.71"	-0.21"
December, 2000	2.11"	-0.36"
January, 2001	1.05"	-0.44"



PROJECT VICINITY MAP
Figure 1

Site Geology

Geologically the project lies within the Park Ridge Moraine, part of the Lake Border Moranic System. The Lake Border Moraine is part of the Wadsworth Member of the Wedron Formation, largely composed of clayey and silty clayey till, relatively low in content of pebbles, cobbles and boulders; containing local lenses of silt, mantled with loess.

General

The procedures for this exploration were conducted in general accordance with the appropriate Illinois Department of Transportation Standards. The borings were supervised at all times by a field engineer from the office of Schleede-Hampton Associates, Inc. The soil specimens obtained were transported to our laboratory for testing and analysis. All phases of this investigation have been directed by our project engineer.

Soil Drilling and Sampling Procedures

The soil profile (auger) borings were performed with a drilling rig equipped with a rotary head. Continuous flight augers were used to advance the holes. The augers were advanced with a minimum of rotation to avoid disturbance of the soil profile and frequently retracted for logging and sampling purposes. Representative samples were obtained from the soil retained in the auger's spiral flights. A calibrated hand penetrometer was used to aid in determining the strength and consistency of cohesive soil samples (Qp). All borings were backfilled with soil cuttings following the drilling operations.

Field Tests and Measurements

Water Level Measurements - Water level observations were made during and after the boring operations and are noted on the boring logs presented herewith. In relatively pervious soils, such as sandy soils, the indicated elevations are considered reliable groundwater levels. In relatively impervious soils, the accurate determination of the groundwater elevation may not be possible, even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the levels of the groundwater table, and volumes of water will depend on the permeability of the soils.

Laboratory Testing

A supplemental testing program was conducted to ascertain additional pertinent engineering characteristics of the subgrade and foundation materials. The soils laboratory work was performed in accordance with applicable ASTM and IDOT standards. The laboratory testing program included visual classification, unconfined compression testing and moisture contents were performed on each sample obtained.

The results of testing are presented on the Records of Subsurface Exploration (Boring Logs) presented in the Appendix to this report. The soils encountered in the borings have been classified using the IDOT Textural Classification System, and the AASHTO Engineering Soil Classification System (AASHTO, M-145) for the soil profile.

SUBGRADE & SUBSURFACE CONDITIONS

Subgrade Conditions

The soils encountered at the proposed sugrade elevation along the existing alignment were predominantly classified as Silty CLAY, A-6 FILL. The materials were generally found to be very stiff to hard in consistency with typical unconfined compressive strengths of 1.25 to 3.0 tsf at a moisture content of 19 to 30%. Sandy Clay LOAM, A-6 to Clay LOAM, A-6 were generally encountered beneath the upper profile embankment fill.

Groundwater Conditions

Groundwater was encountered at a depth of 6.5' to 7.0' below the ground surface during the drilling operations. Upon completion water was noted at a depth of 7.3' to 3.0'. Due to their proximity to the roadway, the borings were backfilled upon completion.

Roadway Subgrade Conditions

In general the subgrade soils were found to be moist, that is several percentage points above the optimum required for compaction. Treatments along the proposed alignment will include undercut of lower strength subgrade soils; and replacement of the undercut materials to design subgrade elevation with a selected fill material.

Frost Susceptibility of Subgrade Soils

The susceptibility of the subgrade soils to excessive frost action has been reviewed. The subgrade materials generally do not possess properties that may be considered frost susceptible. The fine sand and silt content (<65%), and plasticity index (>12) of the subgrade materials are not considered to be frost susceptible. Groundwater was encountered below the depth of frost penetration and there are no indications of frost related distress in the existing pavement materials.

General Earthwork and Roadway Subgrade Preparation

All earthwork excavation, embankment and subgrade preparation should be conducted in accordance with the requirements of Sections 200 and 300 of the current IDOT "Standard Specifications for Road and Bridge Construction".

Remedial Treatment Areas

All undercuts must be verified by cone penetrometer tests on the subgrade during construction in accordance with the guidelines in the Illinois Department of Transportation "Subgrade Stability Manual". Areas that were identified by the borings as needing additional treatment are summarized on the following tabulation.

Summary of Special Earthwork Remedial Treatment Areas

Location	Replacement Indicated By	Depth[1]	Treatment Width	Treatment Mat'l[2]
US Route 45 Sta. 507+50 to Sta. 504+50 (B-50)	Qp=1.5 tsf Mc=28%	10"[1]	Widening	GES or PGES
Sta. 504+50 to Sta. 503+00 (B-51)	Qp=1.5 tsf Mc=26%	10"[1]	Full Width	GES or PGES

1 = Depth refers to depth of remedial treatment below the design subgrade elevation.

2 = Replacement Materials or Treatment:
Embankment Material and placement in accordance with Sections 205, 206 and 207
EMB - Embankment (205)
GES - Granular Embankment Special (206)
PGE - Porous Granular Embankment (207)
PGES - Porous Granular Embankment Special

Subgrade Treatment Plan Notes

Porous Granular Embankment, Subgrade (PGES) has been provided for use at the locations indicated for soils that tend to be unsuitable or unstable. The actual need for removal and replacement with PGES will be determined in the field at the time of construction by the geotechnical engineer. All potentially unstable soils should be tested with a static cone penetrometer and treated in accordance with Article 301.03 and the undercut guidelines in the IDOT Subgrade Stability Manual. If unstable and/or unsuitable material is encountered, the soil shall be removed and replaced with PGES or Embankment as determined by the geotechnical engineer. If unstable and/or unsuitable material is not encountered, then the quantity shall be deducted and no additional compensation will be due to the contractor. Transverse underdrains should be placed at the low points of the profile grade of the roadway to drain the Aggregate Subgrade and at the low points of all undercuts replaced with PGES. The pipe underdrains should be placed at a depth of 48 inches below the top of the proposed pavement. FA-1 or FA-2 should be used as backfill for these excavations.

Closure

Thank you for the opportunity to be of continuing service. Please contact us if you have any questions regarding the information contained in this report.

Very truly yours,
SCHLEEDE-HAMPTON ASSOCIATES, INC.

William D. Prigge, P.E.
Project Manager

Appendix

APPENDIX

RECORDS OF SUBSURFACE EXPLORATION
(B-50, B-51)

GENERAL NOTES

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

RECORD OF SUBSURFACE EXPLORATION

BORING B-50 PAGE 1 OF 1

PROJECT NAME U.S. ROUTE 45 (CMAQ Funded Portion)

SHA PROJECT NO. 71210

SITE LOCATION Vernon Hills, Illinois

Station 506+00, 5'S of edge of pavement

DATE STARTED 2/16/01

DATE COMPLETED 2/16/01

DRILLER CB BORING METHOD CFA

GW ENCOUNTERED WHILE DRILLING 7.0'

GROUNDWATER, AT COMPLETION 7.3'

GROUNDWATER, AFTER -- HOUR **

HOLE CAVED, -- AT --

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
--	SURFACE							
	Crushed Limestone Gravel, A-1-a (2")							
	Silty CLAY, dk brn and grey, very stiff, A-6, FILL		1 AU			3.0	15	** Borehole backfilled upon completion
	Silty CLAY, dark grey, stiff, A-6		2 AU			1.5	28	
	Sandy Clay LOAM, brown, stiff, A-6		3 AU			1.25	25	
	Silty CLAY, brown, very stiff, A-6	5	4 AU			2.0	18	
	SILT, brown, moist, A-4		5 AU			<0.25	19	
	Silty CLAY, brown, very stiff, A-6		6 AU			1.5	18	
	End of Boring @ 10.0'	10						

SYMBOLS
N: STANDARD PENETRATION, BLWS/FT.
Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
Wc WATER CONTENT, %
LL: LIQUID LIMIT, %
PI: PLASTICITY INDEX, %
Dd: NATURAL DRY DENSITY, LBS./CU. FT.
Qp: HAND PENETROMETER, TONS/SQ. FT.
GW: GROUND WATER

SAMPLE DESIGNATION
SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
ST- PRESSED SHELBY TUBE
AU- AUGER SAMPLE
RC- ROCK CORE - NXM
BORING METHOD
HSA- HOLLOW STEM AUGER
CFA- CONTINUOUS FLIGHT AUGERS
C- CASING
MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

SCHLEEDE-HAMPTON ASSOCIATES, INC. • CONSULTING ENGINEERS

RECORD OF SUBSURFACE EXPLORATION

BORING B-51 PAGE 1 OF 1

PROJECT NAME U.S. ROUTE 45 (CMAQ Funded Portion)

SHA PROJECT NO. 71210

SITE LOCATION Vernon Hills, Illinois

Station 503+00, 8'S of edge of pavement

DATE STARTED 2/16/01

DATE COMPLETED 2/16/01

DRILLER CB BORING METHOD CFA

GW ENCOUNTERED WHILE DRILLING 6.5'

GROUNDWATER, AT COMPLETION 3.0'

GROUNDWATER, AFTER -- HOUR **

HOLE CAVED, -- AT --

ELEV.	DESCRIPTION	DEPTH	SAMPLE	N	Qu	Qp	Wc	Remarks
--	SURFACE							
	Crushed Limestone Gravel, A-1-a (2")							
	Silty CLAY, dark brown and grey, very stiff, A-6, FILL		1 AU			2.25	19	** Borehole backfilled upon completion
	Silty Clay LOAM, dark brown, stiff, A-6		2 AU			1.5	28	
	Clay LOAM, brown, stiff, A-6	5	3 AU			1.0	22	
			4 AU			1.0	28	
			5 AU			1.0	20	
	End of Boring @ 10.0'	10						

SYMBOLS
N: STANDARD PENETRATION, BLWS/FT.
Qu: UNCONFINED COMPRESSIVE STRENGTH, TONS/SQ. FT.
Wc WATER CONTENT, %
LL: LIQUID LIMIT, %
PI: PLASTICITY INDEX, %
Dd: NATURAL DRY DENSITY, LBS./CU. FT.
Qp: HAND PENETROMETER, TONS/SQ. FT.
GW: GROUND WATER

SAMPLE DESIGNATION
SS- DRIVEN SPLIT SPOON 1 3/8" I.D., 2" O.D.
ST- PRESSED SHELBY TUBE
AU- AUGER SAMPLE
RC- ROCK CORE - NXM
BORING METHOD
HSA- HOLLOW STEM AUGER
CFA- CONTINUOUS FLIGHT AUGERS
C- CASING
MD- MUD DRILLING

NOTE: The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

SCHLEEDE-HAMPTON ASSOCIATES, INC.
CONSULTING ENGINEERS

GENERAL NOTES

PARTICLE SIZE DESCRIPTION & TERMINOLOGY

Coarse Grained or Granular Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays or clayey silts if they are cohesive and silts if they are non-cohesive. In addition to gradation, granular soils are defined on the basis of their relative in-place density and the fine grained soils on the basis of their strength or consistency and their plasticity.

Major Component of Sample	Size Range
Boulders	Over 8 in. (200 mm)
Cobbles	8 inches to 3 inches (200 mm to 75mm)
Gravel	3 inches to #10 sieve (75mm to 2.00mm)
Sand	#10 to #200 sieve (2.00mm to 75mm)
Silt	Passing #200 sieve (75mm to 2mm)
Clay	Smaller than 2mm

Descriptive Term of Components Also Present in Sample	Approximate Quantity (Percent)
Trace	1 - 9
Little	10 - 19
Some	20 - 34
And	35 - 50

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

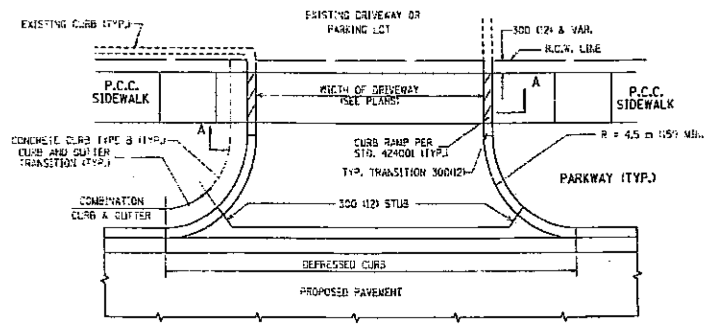
GRANULAR SOILS

DENSITY CLASSIFICATION	APPROXIMATE RANGE OF N *
Very Loose	0 - 3
Slightly Dense	4 - 9
Medium Dense	10 - 29
Dense	30 - 49
Very Dense	50 - 80
Extremely Dense	80 +

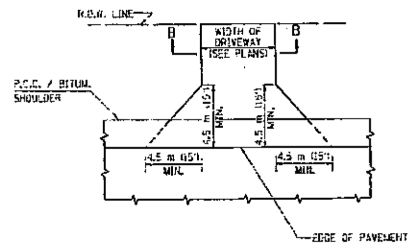
COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH, Qu - TSF	APPROXIMATE RANGE OF N *
Very Soft	0.25	0 - 2
Soft	0.25 - 0.49	3 - 4
Firm	0.50 - 0.99	5 - 8
Stiff	1.00 - 1.99	9 - 15
Very Stiff	2.00 - 3.99	16 - 30
Hard	4.00 - 8.00	31 - 50
Very Hard	8.00 +	Over 50

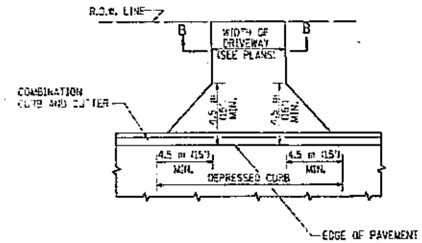
* STANDARD PENETRATION TEST (ASTM D1586) - A 2.0" outside-diameter, split barrel sampler is driven into undisturbed soil by means of a 140 pound weight falling freely through a vertical distance of 30 inches. The sampler is normally driven 3 successive 6 inch increments. The total number of blows required for the final 12 inches of penetration is the Standard Penetration Resistance (N).



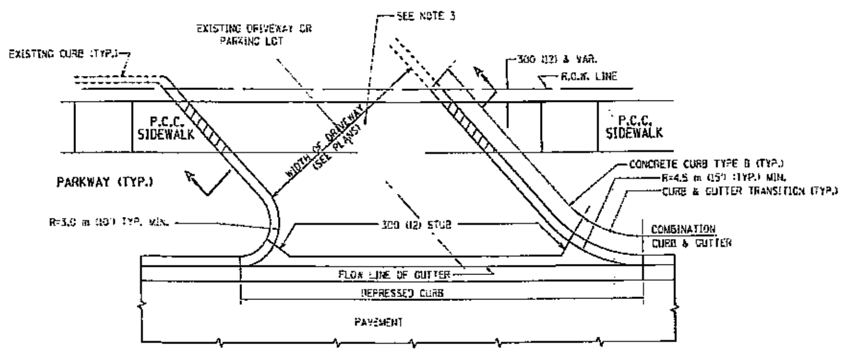
WITH CONCRETE CURB, TYPE B



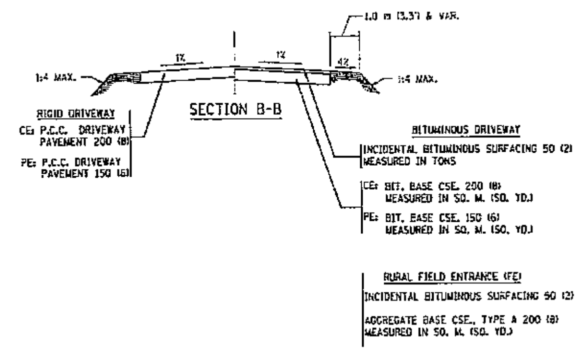
ADJACENT TO P.C.C. / BITUMINOUS SHOULDER

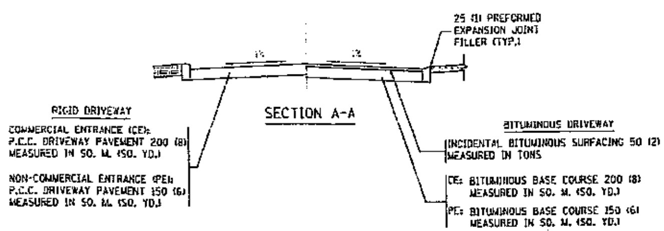


ADJACENT TO CURB AND GUTTER



WITH CONCRETE CURB, TYPE B





GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 1.2 METERS (4 FEET) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

25 (1) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED

REVISIONS	
NAME	DATE
R. SHAH	08-05-95
R. SHAH	11-04-95
J. POLLASTRINI	08-12-96
J. POLLASTRINI	12-14-96
A. ABBAS	03-21-97
T. HOLTZ	04-08-97

ILLINOIS DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS DISTANCE BETWEEN R.O.W. AND FACE OF CURB / EDGE OF SHOULDER >= 4.5 m (15')

SCALE: NONE
DRAWN BY: SG
DATE 06/22/00
CHECKED BY: JFP

BD400-01 (BD-01)

Thu Jun 22 14:28:41 2000
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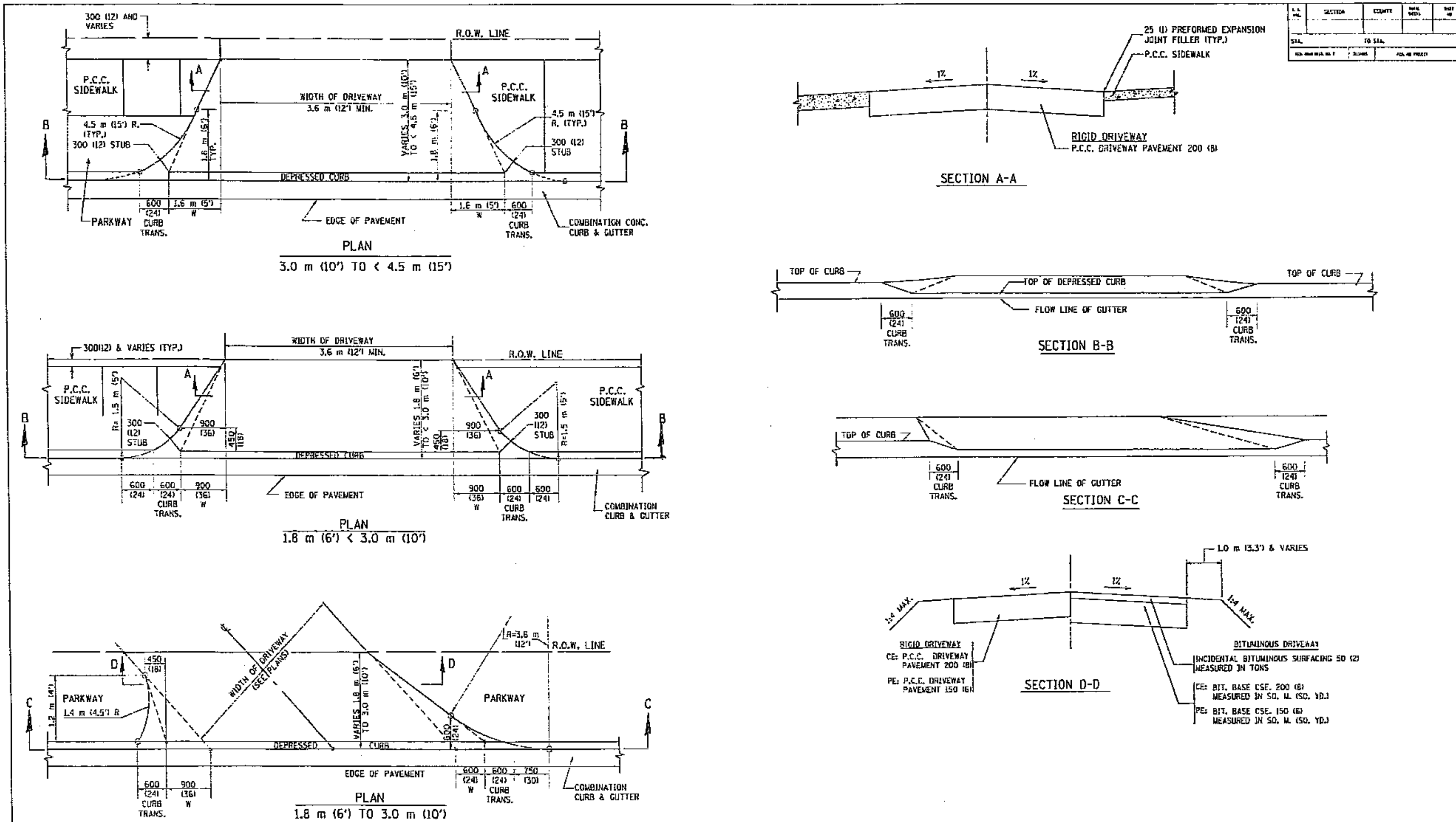
VI=BD01

157



GENERAL NOTES

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 2.4 M (8'), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

25 (1) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

"W" VARIES FROM 900 (36) TO 1.5 m (5 FT.) PROPORTIONAL TO THE LENGTH (L), FROM 1.8 m (6 FT.) TO 3 m (10 FT.).

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

REVISIONS	
NAME	DATE
M. DEYONG	06/13/90
R. SHAH	08/05/95
R. SHAH	11/06/95
J. POLLASTRINI	08/12/96
J. POLLASTRINI	12/14/96
A. ABBAS	03/21/97
T. HOLTZ	04/08/97

ILLINOIS DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS

DISTANCE BETWEEN ROW AND FACE OF CURB < 4.5 m (15')

SCALE: NONE | DRAWN BY: SG
DATE 06/22/00 | CHECKED BY: JFP

BD400-02 (BD-02)

Thu Jun 22 14:30:10 2000
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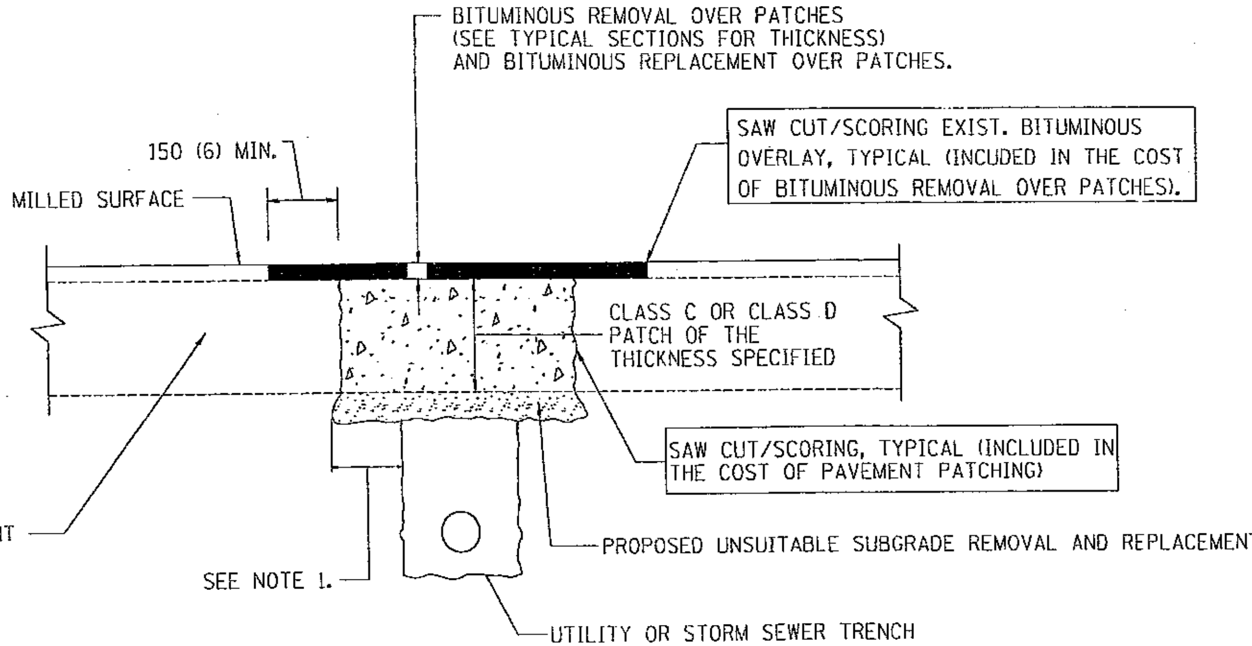
V1=BD02

158

	SECTION	COUNTY		
STA.	TO STA.			



* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

NOTES:

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 300 (12) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE SPECIAL PROVISION "PATCHING WITH BITUMINOUS OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION

1. REMOVE THE EXISTING BITUMINOUS MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE FULL DEPTH PATCHES
3. REPLACE BITUMINOUS MATERIAL OVER THE AREA TO BE PATCHED.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

REVISIONS NAME	DATE	REVISIONS NAME	DATE
R. SHAH	10/25/94	ART ABBAS	04/27/98
R. SHAH	01/14/95		
R. SHAH	03/23/95		
R. SHAH	04/24/95		
A. HOUSEH	03/15/96		
A. ABBAS	03/21/97		
A. ABBAS	01/20/98		

ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT PATCHING FOR BITUMINOUS SURFACED PAVEMENT

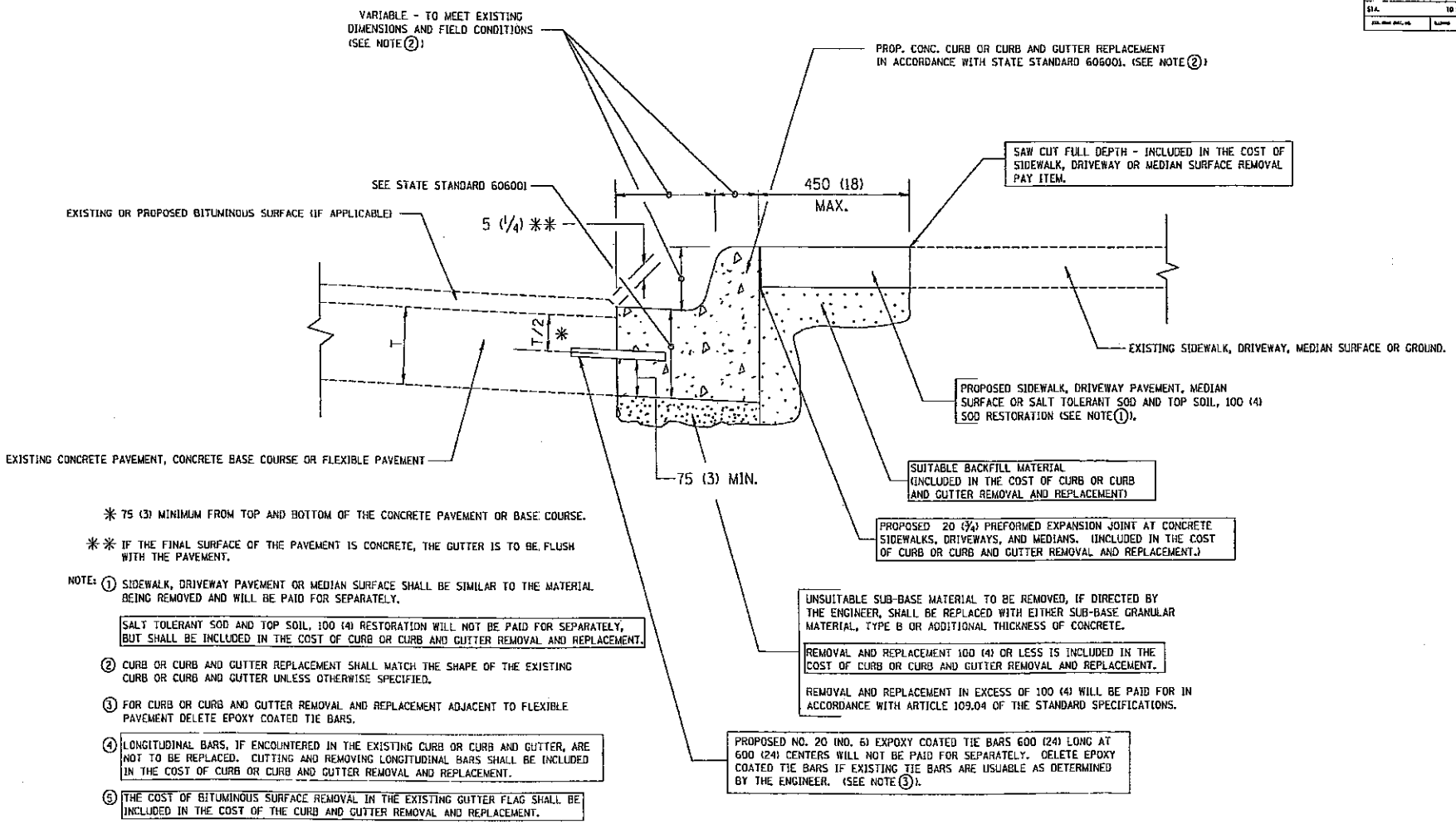
SCALE: NONE DRAWN BY

DATE 03/13/00 CHECKED BY

BD400-04 (BD-22)

V1=BD22
\\dlcadd1\projects\dsstd\bd22.dgn LV=35
Mon Mar 13 13:42:37 2000

159



* 75 (3) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

** IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SALT TOLERANT SOD AND TOP SOIL, 100 (4) RESTORATION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

② CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

③ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

④ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑤ THE COST OF BITUMINOUS SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
M. DE YONG	05/28/91
A. HOUSEH	03/11/94
R. SHAH	02/24/95
R. SHAH	03/02/95
R. SHAH	08/19/96
R. SHAH	09/12/96
R. SHAH	09/19/96
R. SHAH	10/03/96
A. ABBAS	03/21/97

ILLINOIS DEPARTMENT OF TRANSPORTATION

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

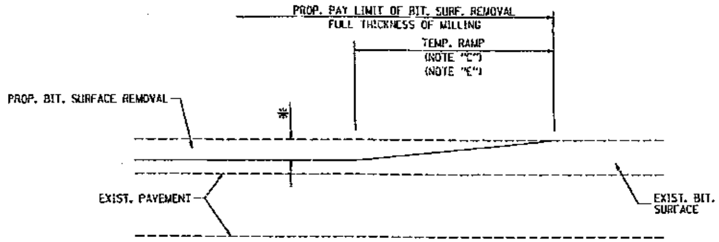
SCALE: NONE DRAWN BY

DATE 03/13/00 CHECKED BY

Mon Mar 13 13:43:53 2000
\\dlcadd\projects\distatd\bd24.dgn LV=35
VI-BD24

BD600-06 (BD-24)

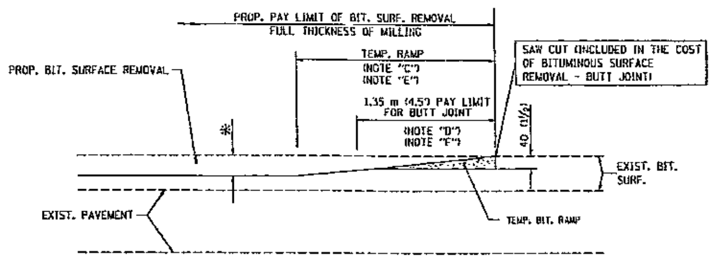
140



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND BIT. TAPER SEE DETAIL BELOW)

OPTION 1

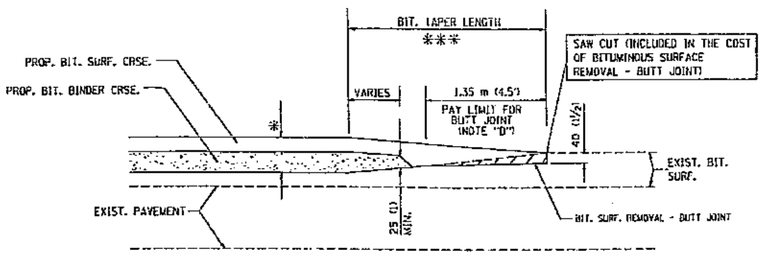


BITUMINOUS CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND BIT. TAPER SEE DETAIL BELOW)

OPTION 2

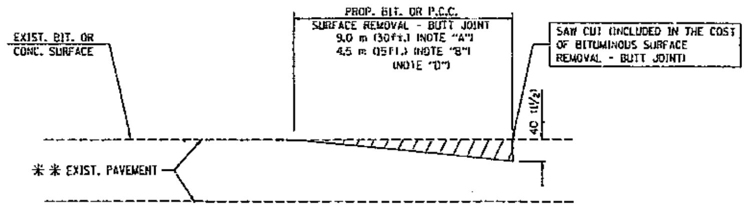
TYPICAL TEMPORARY RAMP



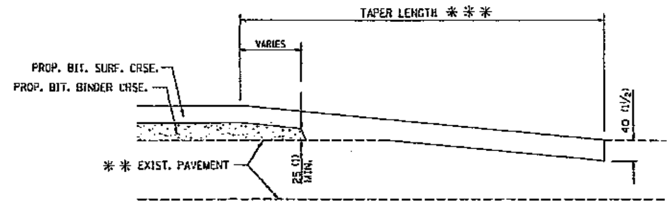
BUTT JOINT AND BITUMINOUS TAPER

TYPICAL BUTT JOINT AND BITUMINOUS TAPER FOR MILLING AND RESURFACING

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA.		TO STA.		



BUTT JOINT DETAIL



BITUMINOUS TAPER DETAIL

TYPICAL BUTT JOINT AND BITUMINOUS TAPER FOR RESURFACING ONLY

** PC CONCRETE, BITUMINOUS OR BITUMINOUS RESURFACED PAVEMENT.

NOTES

A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.

B: MINOR SIDE ROADS.

C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING BITUMINOUS SURFACE.

D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED BITUMINOUS COURSES.

E: TAPER THE TEMP. RAMP AT A RATE OF 900 (3 ft.) PER INCH OF MILLING THICKNESS.

F: INSTALLATION AND REMOVAL OF THE 1.35 m (4.5') TEMP. BIT. RAMP WILL BE PAID AS "BITUMINOUS SURFACE REMOVAL - BUTT JOINT".

G: SEE ARTICLE 406.18 AND 406.24 OF THE STANDARD SPECIFICATIONS FOR "BITUMINOUS AND PCC SURFACE REMOVAL, BUTT JOINT".

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

*** 6.1 m (20') PER 25 (1) RESURFACING (NOTE "A")
3.0 m (10') PER 25 (1) RESURFACING (NOTE "B")

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR PER SQUARE METER (SQUARE YARD) AS "BITUMINOUS SURFACE REMOVAL - BUTT JOINT" OR AS "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

REVISIONS	
NAME	DATE
M. DE YONG	6-13-90
M. DE YONG	7-3-90
M. DE YONG	3-27-92
R. SHAH	09/09/94
R. SHAH	10/25/94
A. ABBAS	03/21/97

ILLINOIS DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND BITUMINOUS TAPER DETAILS

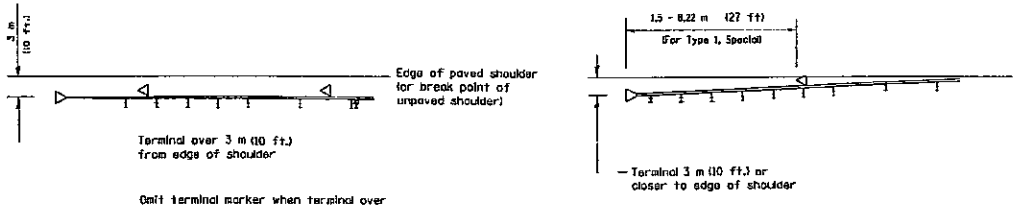
SCALE: NONE
DATE: 03/13/00
DRAWN BY
CHECKED BY

Mon Mar 13 15:45:08 2000
\\dlcodd\projects\district\bd32.dgn LV=35
VI=BD32

BD400-05 (VI=BD32)

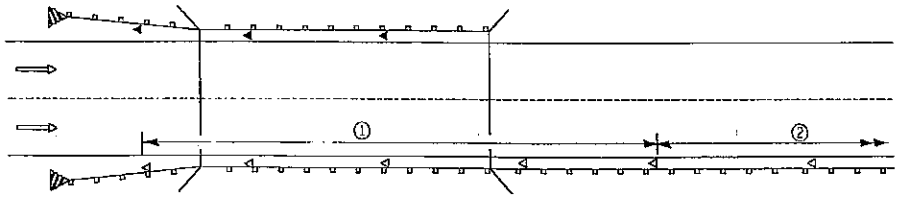
161

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



Omit terminal marker when terminal over 3 m (10 ft.) from edge of paved shoulder or break point of unpaved shoulder, or when terminal buried in backslope.

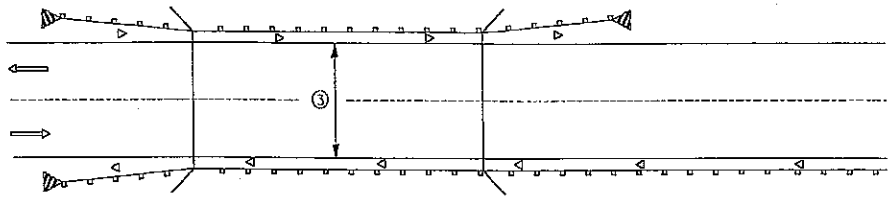
TERMINAL MARKER PLACEMENT



① Spacing 24 m (80 ft.) max. for first 122 m (400 ft.) or curve spacing shown in Standard 635001, whichever is less (min. 4 reflectors regardless of length).

② After 122 m (400 ft.), transition to normal delineator spacing shown in Standard 635001, and continue as required.

ONE-WAY TRAFFIC



③ Bidirectional silver/silver should be used in lieu of monodirectional silver on both sides of two-lane bridges where the the pavement approaching the bridge is less than 610 (24) wide.

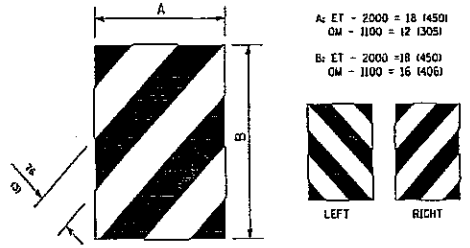
◁ Monodirectional silver

◀ Monodirectional amber

Terminal Marker - Black/Yellow Left or Right as appropriate

TWO-WAY TRAFFIC

GUARDRAIL / BARRIER WALL / BRIDGE RAIL REFLECTIORS



A: ET - 2000 = 18 (450)
OM - 1100 = 12 (305)

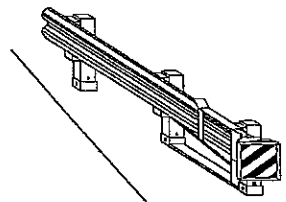
B: ET - 2000 =18 (450)
OM - 1100 = 16 (406)

TERMINAL MARKER DETAILS

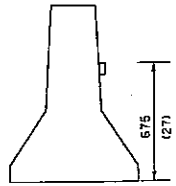
Color: Black / Yellow reflectorized

TYPE 1, SPECIAL
OM - 1100 (L or R) Direct applied reflective sheeting

OM - 1200 (L or R) Post mounted



TYPE 1, SPECIAL



BARRIER WALL REFLECTOR PLACEMENT

GENERAL NOTES:

1) FOR REFLECTOR SPACING ON HORIZONTAL CURVES AND TANGENT SECTIONS USE DELINEATOR FOR SPACING FOR STATE STANDARDS 635001

2) ALL DIMENSIONS ARE IN MILLIMETERS (inches) UNLESS OTHERWISE NOTED.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1

TERMINAL MARKER AND REFLECTOR PLACEMENT AT GUARDRAILS, BARRIER WALLS AND BRIDGE RAILS

SCALE: NONE
DATE: 04/13/00

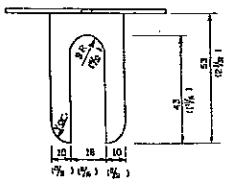
SHEET 1 OF 2

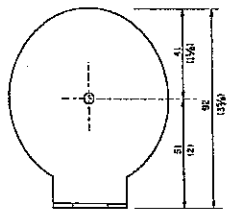
BD-50

Mon Mar 13 13:47:38 2000
\\dlicadd\projects\distsd\sd58.dgn LV=35

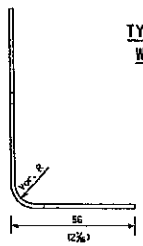
162

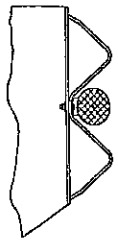
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



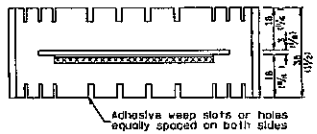


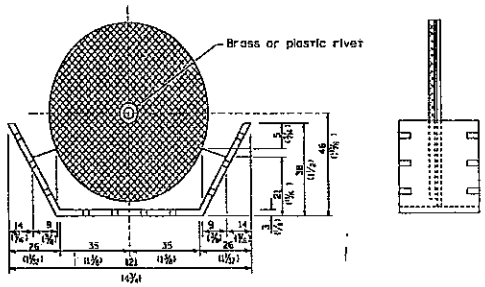
REFLECTOR MARKER TYPE A



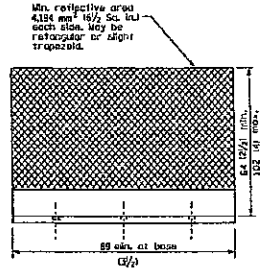


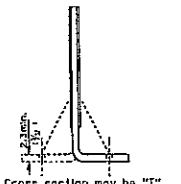
TYPICAL MOUNTING WITH REFLECTOR

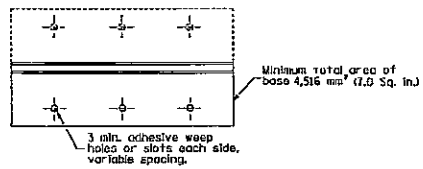




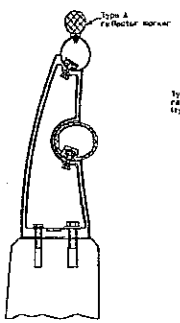
REFLECTOR MARKER TYPE B



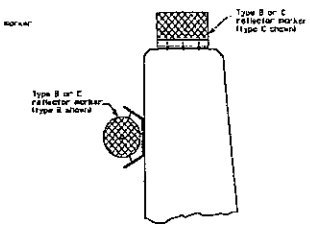




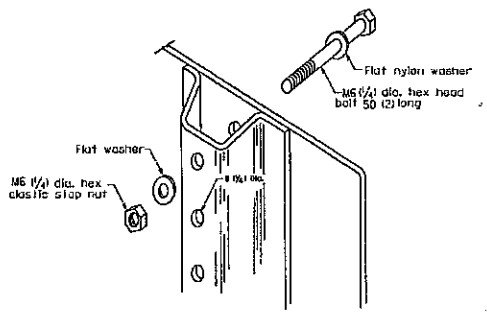
REFLECTOR MARKER TYPE C



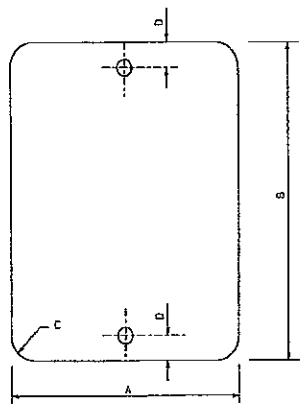
TYPICAL MOUNTING DETAIL FOR BRIDGE RAIL REFLECTOR



TYPICAL MOUNTING DETAIL FOR BARRIER WALL REFLECTOR



DETAIL OF MOUNTING TERMINAL MARKER TO POST



STANDARD TERMINAL MARKER

SIGN SIZE	DIMENSIONS			
	A	B	C	D
305x406 (12x16)	305 (12.0)	406 (16.0)	38 (1.5)	50 (2.0)

ALL DIMENSIONS ARE IN MILLIMETERS (inches) UNLESS OTHERWISE NOTED.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1

TERMINAL MARKER AND REFLECTOR PLACEMENT AT GUARDRAILS, BARRIER WALLS AND BRIDGE RAILS

SCALE: NONE

DATE 03/13/00

SHEET 2 OF 2

BD-50

Mon Mar 13 13:47:38 2000
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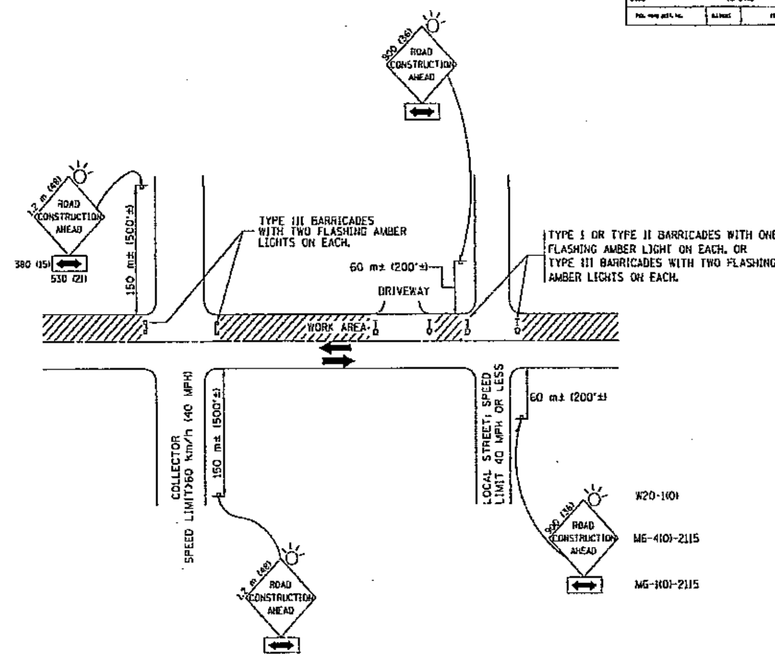
193



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 900x900 (36x36) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 60 m (200') IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

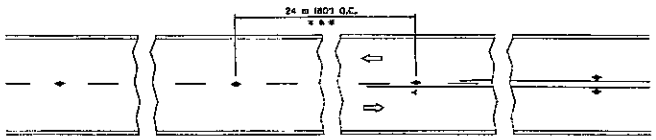
REVISIONS	
NAME	DATE
LHA	6/89
T. RAMMACHER	05/08/94
J. OBERLE	10/18/95
A. HOUSEH	03/06/96
A. HOUSEH	10/15/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

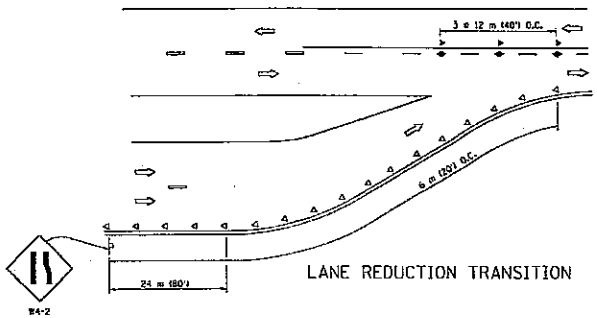
SCALE: NONE
DATE: 03/13/00
DRAWN BY
CHECKED BY

TC-10

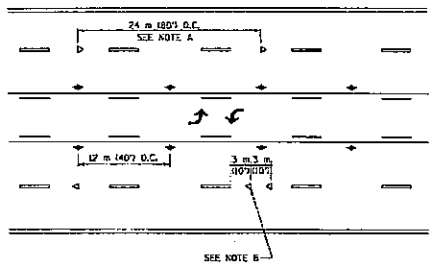


* & # REDUCE TO 12 m (40') O.C. ON CURVES WITH POSTED OR ADVISORY SPEED TO 40km/h (45 M.P.H.) OR LESS.

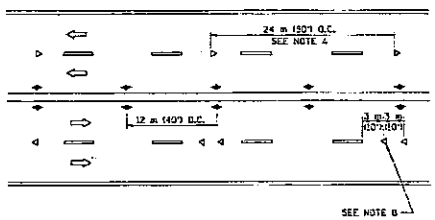
TWO-LANE/TWO-WAY



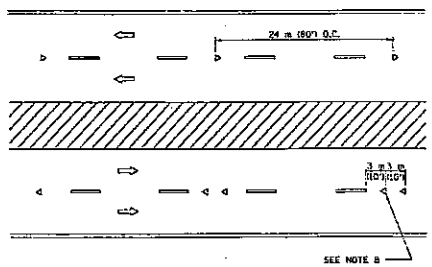
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 50 TO 75 (2 TO 3) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 150 m (500') IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/OI
- TWO-WAY AMBER MARKER

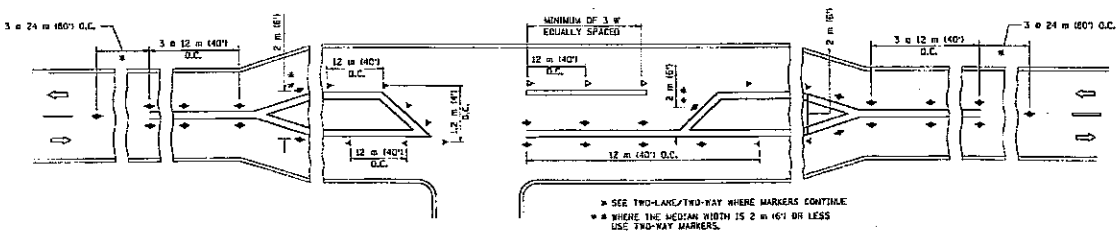
LANE MARKER NOTES

A. REDUCE TO 12 m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 20 km/h (10 M.P.H.) LOWER THAN POSTED SPEEDS.

B. WHERE DOUBLE LANE LINE MARKERS ARE SPECIFIED, THEY SHALL BE SPACED AS SHOWN.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS MAY BE SPECIFIED ON HIGH VOLUME ROADS.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED. CURBED SECTIONS SHOULD BE DELINEATED WITH CURB TOP MARKERS.



RURAL LEFT TURN

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
F. RAMMACHER	09-19-94

ILLINOIS DEPARTMENT OF TRANSPORTATION

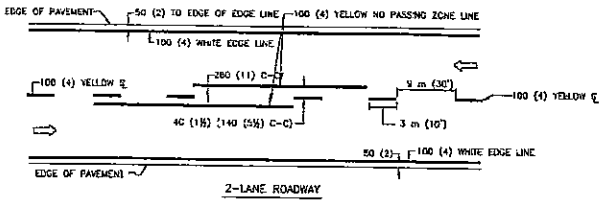
TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS
(SNOW-PLOW RESISTANT)

SCALE: NONE — DRAWN BY: CADD
DATE: 04/11/97 — CHECKED BY:

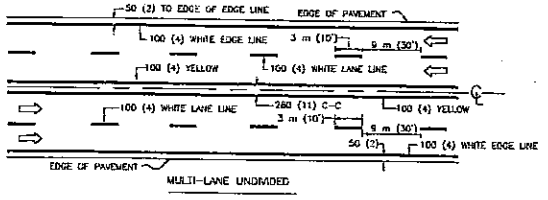
TC-11

Fri Apr 18 07:56 1997
c:\projects\dis1std\tc11.dgn LV=2,3,22,35,43,63
WHITE

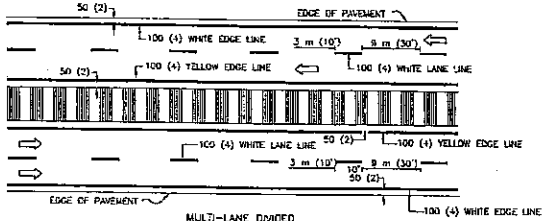
195



2-LANE ROADWAY



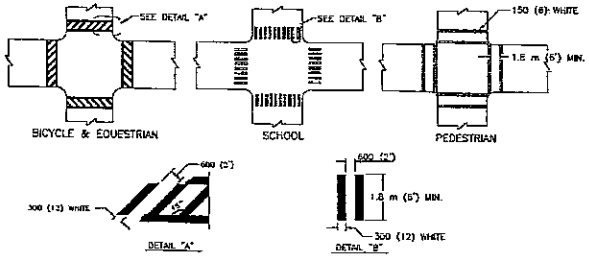
MULTI-LANE UNDIVIDED



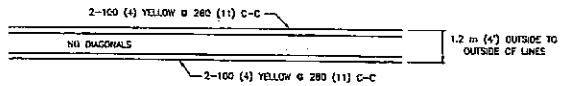
MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

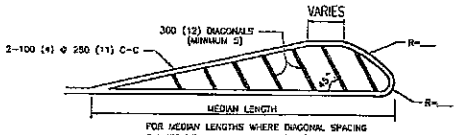
TYPICAL LANE AND EDGE LINE MARKING



TYPICAL CROSSWALK MARKING



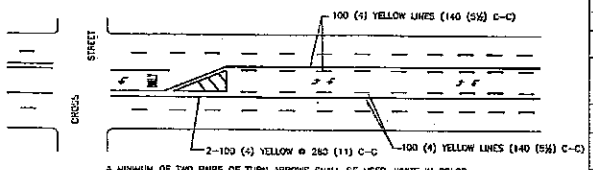
1.2 m (4') WIDE MEDIANS ONLY



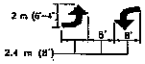
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 15 m (50') C-C (LESS THAN 50 km/h (30 MPH))
25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH))
45 m (150') C-C (MORE THAN 70 km/h (45 MPH))

MEDIANS OVER 1.2 m (4') WIDE

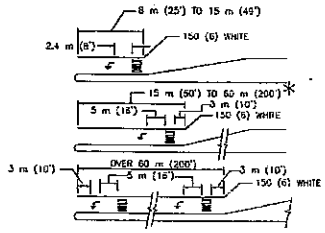


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 60 m (200') TO 90 m (300') INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

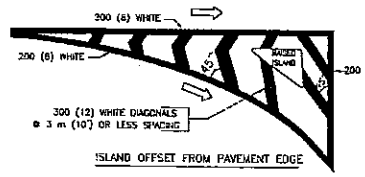


FULL SIZE LETTERS 2.4 m (8') AND ARROWS SHALL BE USED.
AREA = 1.5 m² (15.6 SQ. FT.) AREA = 1.9 m² (20.8 SQ. FT.)

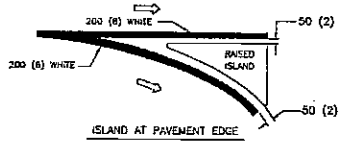
* TURN LANES IN EXCESS OF 120 m (400') IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	100 (4)	SKIP-DASH	YELLOW	3 m (10') LINE WITH 9 m (30') SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 100 (4)	SOLID	YELLOW	280 (11) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	100 (4) 2 @ 100 (4)	SOLID SOLID	YELLOW YELLOW	140 (5½) C-C FROM SKIP-DASH CENTERLINE 280 (11) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	100 (4) 125 (5) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	3 m (10') LINE WITH 9 m (30') SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	600 (2') LINE WITH 1.8 m (6') SPACE
EDGE LINES	100 (4)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW. EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	150 (6) LINE; FULL SIZE LETTERS & SYMBOLS (2.4 m (8'))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 100 (4) EACH DIRECTION 2.4 m (8') LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	3 m (10') LINE WITH 9 m (30') SPACE FOR SKIP-DASH; 140 (5½) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 150 (6) 300 (12) @ 45° 300 (12) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 1.8 m (6') APART 600 (2') APART 600 (2') APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	600 (24)	SOLID	WHITE	PLACE 1.2 m (4') IN ADVANCE OF AND PARALLEL TO CROSSWALK; IF PRESENT, OTHERWISE, PLACE AT DESIRED STOPPING POINT.
PAINTED MEDIANS	2 @ 100 (4) WITH 300 (12) DIAGONALS @ 45° NO DIAGONALS USED FOR 1.2 m (4') WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	280 (11) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	200 (8) WITH 300 (12) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 2.5 m (15') C-C (LESS THAN 50 km/h (30 MPH)) 6 m (20') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 9 m (30') C-C (OVER 70 km/h (45 MPH))
RAILROAD CROSSING	600 (24) TRANSVERSE LINES; "RR" IS 1.8 m (6') LETTERS; 400 (16) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=0.40 m² (4.3 SQ. FT.) EACH "X"=5.0 m² (54.0 SQ. FT.)
SHOULDER DIAGONALS	300 (12) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	15 m (50') C-C (LESS THAN 50 km/h (30 MPH)) 25 m (75') C-C (50 km/h (30 MPH) TO 70 km/h (45 MPH)) 45 m (150') C-C (OVER 70 km/h (45 MPH))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 1997 AND STATE STANDARD 780001.

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
EVERS	03-19-80
T. RAMMACHER	10-27-94
ALEX HOUSEH	10-09-96
ALEX HOUSEH	10-17-96

ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE
DRAWN BY CADD
DATE
CHECKED BY

TC-13

	SECTION	COUNTY		
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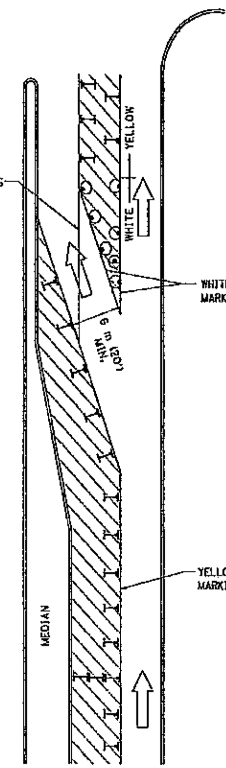

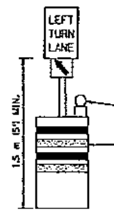

GENERAL NOTES

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 710 (28) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 1.5 m (5').
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 600 x 600 (24 x 24) AND M6-2R 530 x 380 (21 x 15) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM BT 725 IS REQUIRED.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

LEGEND

WORK AREA

LANE OPEN TO TRAFFIC

TYPE I OR II BARRICADE WITH STEADY BURN LIGHT

DRUM WITH STEADY BURN LIGHT

DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL

TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
T. RAMMACHER	09/08/94
A. HOUSEH	11/07/95
A. HOUSEH	10/12/96
T. RAMMACHER	01/06/00

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)

SCALE: NONE
DRAWN BY
DATE: 03/13/00
CHECKED BY LMA

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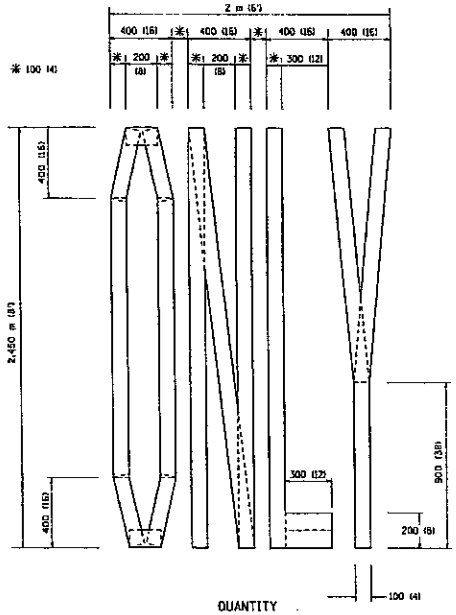
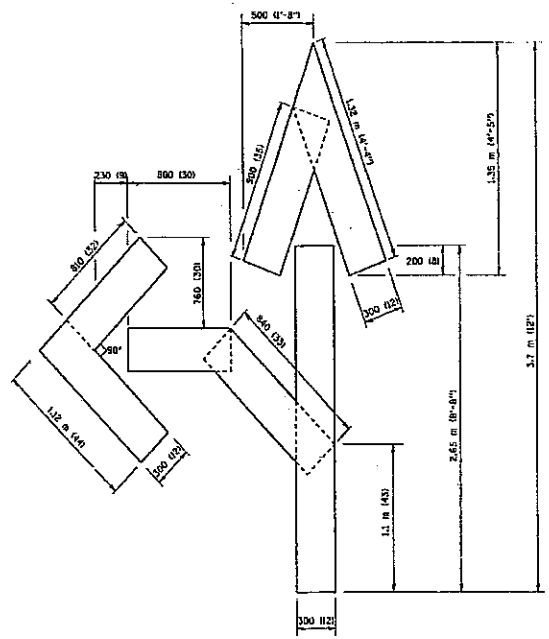
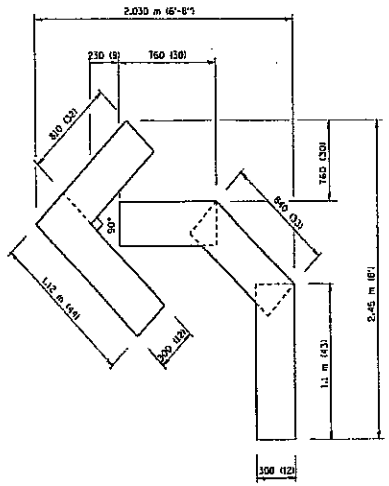


QUANTITY
100 (4) LINE = 19.7 m (64.1 ft.)
1.97 sq. m (21.1 sq. ft.)



QUANTITY
100 (4) LINE = 25.3 m (82.5 ft.)
2.53 sq. m (27.5 sq. ft.)



QUANTITY
100 (4) LINE = 13.9 m (45.5 ft.)
1.39 sq. m (15.2 sq. ft.)

All dimensions are in millimeters (inches) unless otherwise shown.

REVISIONS	
NAME	DATE
T. RAMMACHER	09/18/94
J. OBERLE	06/01/95
T. RAMMACHER	06/05/96
T. RAMMACHER	11/04/97
T. RAMMACHER	03/02/98

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS

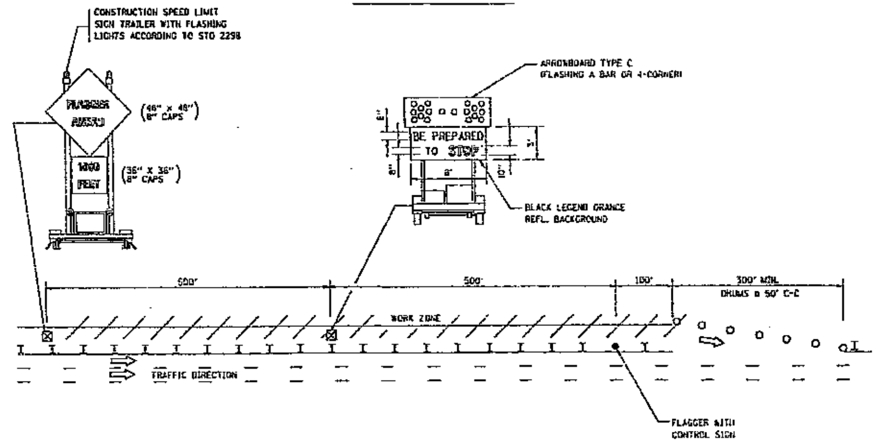
SCALE: NONE
DRAWN BY CADD
DATE 03/13/00
CHECKED BY

TC-16

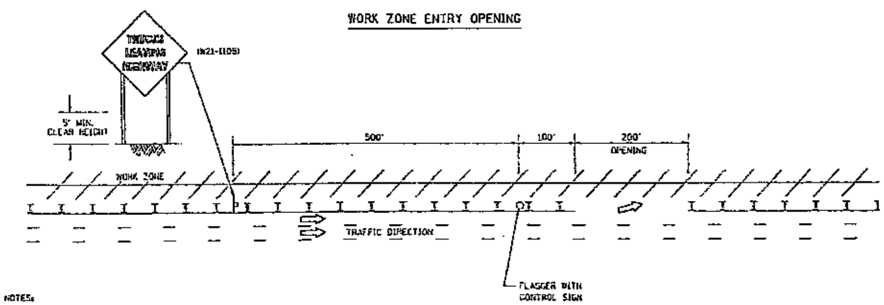
168

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



NOTES:

1. The Arrowboard, the Flagger Ahead trailer mounted sign, and the Trucks Leaving Highway sign shall be removed or turned away from traffic and the exit and entry openings shall be closed when the flagging operation ceases.
2. Work Zone Exit Openings should be a minimum of one half mile apart.
3. Nighttime Flagging Operations: The flag station shall be lighted with additional lights other than streetlights. The flagger control sign and the flagger vest shall be reflectorized. In addition, the flagger shall have a flashlight and lighted wand.
4. Exiting the work zone at any place other than at a Work Zone Exit Opening will be prohibited.
5. All vehicles shall enter the work zone at entry openings, using their turn signals to warn motorists

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

SCALE: NONE
DATE 03/28/00
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TC-18

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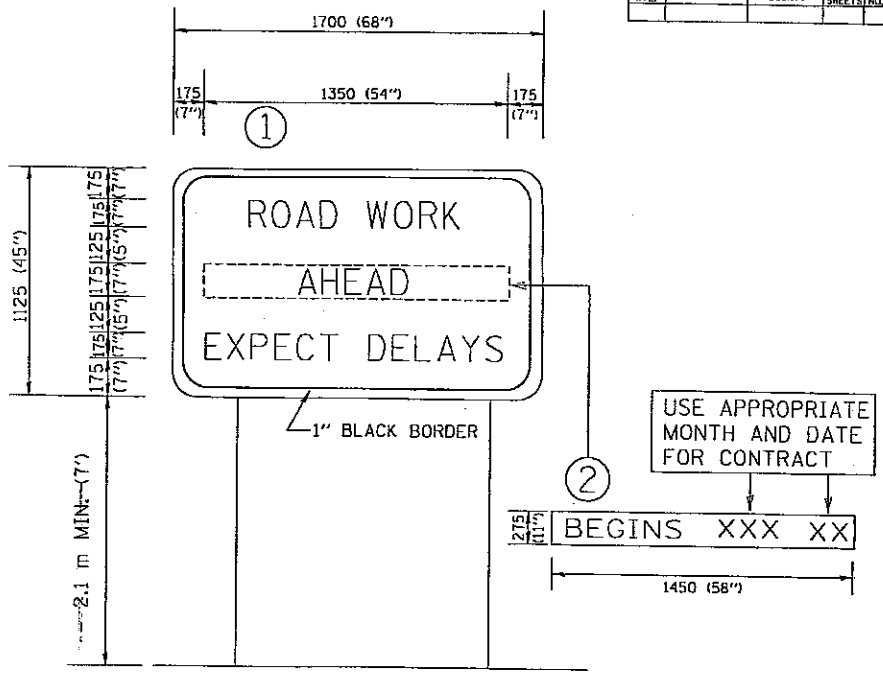
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 2.3 SQ. M. (25.70 SQ. FT.)

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.

REVISIONS	
NAME	DATE
R. MIRS	9-15-97
R. MIRS	12-11-97
I. RAMMACHER	2-2-99

ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY INFORMATION SIGNING

DRAWN BY: BUR. OF DESIGN

03/13/00 CHECKED BY

TC22

Mon Mar 13 13:56:11 2000
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REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. These contract provisions shall apply to all word performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4 and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

a. Discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or

b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60 (and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job-training."

2. EEO Officer: The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for an must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above

agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employees referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish which such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to

the SHA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or quailifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.

8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $10,000 or more.)

a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

b. As used in this certification, the term “segregated facilities” means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of $10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter “the wage determination”) which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the

contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the question, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advised the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any cost reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not

be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which cases such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers:
Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV. 2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainee's and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall; upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding $2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period).

The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V.

This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all suncontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;

(3) that each laborer or mechanic has been paid not less that the applicable wage rate and fringe benefits or cash equivalent for the classification of worked performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U/S. C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for

inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all federal-aid contracts on the national highway system, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than $1,000,000 (23 CFR 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.

c. Furnish, upon the completion of the contract, to the SHA resident engineer on /Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in he contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted form the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract.

Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S. C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification,

distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than $10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of $100,000 or more).

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.

3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible,""lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled

"Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of $25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tie participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealing.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion-Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

MINIMUM WAGES FOR FEDERAL AND FEDERALLY ASSISTED CONSTRUCTION CONTRACTS

This project is funded, in part, with Federal-aid funds and, as such, is subject to the provisions of the Davis-Bacon Act of March 3, 1931, as amended (46 Sta. 1494, as amended, 40 U.S.C. 276a) and of other Federal statutes referred to in a 29 CFR Part 1, Appendix A, as well as such additional statutes as may from time to time be enacted containing provisions for the payment of wages determined to be prevailing by the Secretary of Labor in accordance with the Davis-Bacon Act and pursuant to the provisions of 29 CFR Part 1. The prevailing rates and fringe benefits shown in the General Wage Determination Decisions issued by the U.S. Department of Labor shall, in accordance with the provisions of the foregoing statutes, constitute the minimum wages payable on Federal and federally assisted construction projects to laborers and mechanics of the specified classes engaged on contract work of the character and in the localities described therein.

General Wage Determination Decisions, modifications and supersedes decisions thereto are to be used in accordance with the provisions of 29 CFR Parts 1 and 5. Accordingly, the applicable decision, together with any modifications issued, must be made a part of every contract for performance of the described work within the geographic area indicated as required by an applicable DBRA Federal prevailing wage law and 29 CFR Part 5. The wage rates and fringe benefits contained in the General Wage Determination Decision

NOTICE

The most current **General Wage Determination Decisions** (wage rates) are available on the IDOT web site. They are located on the Letting and Bidding page at http://www.dot.il.gov/desenv/delett.html.

In addition, ten (10) days prior to the letting, the applicable Federal wage rates will be e-mailed to subscribers. It is recommended that all contractors subscribe to the Federal Wage Rates List or the Contractor's Packet through IDOT's subscription service.

PLEASE NOTE: if you have already subscribed to the Contractor's Packet you will automatically receive the Federal Wage Rates.

The instructions for subscribing are at http://www.dot.il.gov/desenv/subsc.html.

If you have any questions concerning the wage rates, please contact IDOT's Chief Contract Official at 217-782-7806.